

STATE OF MICHIGAN  
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter of the complaint of	)	
Boyce Hydro Power, LLC against	)	
Consumers Energy Company	)	Case No. U-17930
concerning disputed costs for	)	
communication and protection	)	
<u>equipment.</u>	)	

**NOTICE OF PROPOSAL FOR DECISION**

The attached Proposal for Decision is being issued and served on all parties of record in the above matter on December 22, 2016.

Exceptions, if any, must be filed with the Michigan Public Service Commission, 7109 West Saginaw, Lansing, Michigan 48917, and served on all other parties of record on or before January 13, 2017, or within such further period as may be authorized for filing exceptions. If exceptions are filed, replies thereto may be filed on or before January 27, 2017. **The Commission has selected this case for participation in its Paperless Electronic Filings Program. No paper documents will be required to be filed in this case.**

At the expiration of the period for filing exceptions, an Order of the Commission will be issued in conformity with the attached Proposal for Decision and will become effective unless exceptions are filed seasonably or unless the Proposal for Decision is reviewed by

action of the Commission. To be seasonably filed, exceptions must reach the Commission on or before the date they are due.

MICHIGAN ADMINISTRATIVE HEARING  
SYSTEM  
For the Michigan Public Service Commission

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Sharon L. Feldman  
Administrative Law Judge

December 22, 2016  
Lansing, Michigan

STATE OF MICHIGAN  
MICHIGAN ADMINISTRATIVE HEARING SYSTEM  
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**PROPOSAL FOR DECISION**

**I.**

**PROCEDURAL HISTORY**

Boyce Hydro Power, LLC filed its complaint initiating this case on September 22, 2015. Following a determination that the complaint states a prima facie case, as provided for in Rule 443, R 792.10443 of the Commission's Rules of Practice and Procedure, the complaint was served on Consumers Energy Company and a prehearing conference date was set. Consumers Energy filed an answer to the complaint on November 11, 2015, in compliance with the Executive Secretary's instructions. At the November 17, 2016 prehearing conference, the Complainant Boyce, Respondent Consumers Energy, and Staff agreed to a schedule, which provided for the filing of testimony by all parties, for discovery, and for motions to strike and motions to dismiss to be filed and heard prior to cross-examination.

Consistent with the established schedule, Boyce filed the testimony and exhibits of witnesses Frank O. Christie and Ronald L. Harrie on February 5, 2016; Consumers

Energy filed the testimony and exhibits of witnesses Rosanna R. Kallio and Theresa K. Martinez on April 1, 2016; and Boyce filed the rebuttal testimony and single exhibit of Mr. Christie on April 29, 2016. On May 6, 2016, Boyce also filed a motion to strike portions of the testimony and exhibit of Ms. Martinez. Consumers Energy filed a response to the motion on May 13, 2016. Also, on June 3, 2016, Consumers Energy and Boyce each filed a motion for summary disposition. Responses to the motions were filed on June 17, 2016. Oral argument on the motions was held June 24, 2016. The ALJ denied the motions to dismiss, concluding that the development of a factual record was required to resolve the disputes between the parties.

An evidentiary hearing was held on July 18, 2016, at which Mr. Christie and Ms. Martinez were cross-examined, and the testimony of the remaining two witnesses, Ms. Kallio and Mr. Harrie, was bound into the record without the need for them to appear. Boyce and Consumers Energy filed briefs on August 31, 2016, and filed reply briefs on September 14, 2016.

In its complaint, Boyce alleged that Consumers Energy breached a contractual obligation arising from a 1923 power purchase agreement originally entered into between Wolverine Power Company, as owner of the Sanford hydroelectric plant on the Tittabawassee River, and Consumers Power Company, as purchaser under the agreement. Since then, ownership of the Sanford plant has transferred to Boyce, and Consumers Power Company changed its name to Consumers Energy Company, and the agreement has been amended several times. Boyce alleged that a dispute arose between the parties following May 2014 maintenance work by Boyce, replacing one of the original turbines that had been damaged and rewinding one of the original

generators. Boyce alleges that Consumers Energy responded that Boyce would need to pay for communications equipment (Direct Transfer Trip or DTT) as well as Current Transformers (CTs) and Potential Transformers (PTs). Boyce claims that Consumers Energy's demand that Boyce pay for this equipment breaches Consumers Energy's obligations under the contract. Boyce seeks relief including a Commission order finding that Consumers Energy is responsible to pay for any required equipment, and damages including litigation costs.

In its answer, Consumers Energy acknowledged the contractual relationship, also identifying an additional amendment to the agreement not identified in the complaint. Consumers Energy also alleged the DTT is required, as well as a telemetry Remote Terminal Unit (RTU), to reduce the risk of islanding created by Boyce's plant modifications, while alleging that issues regarding CTs and PTs have already been resolved. Consumers Energy disputed that it is contractually obligated to pay for the identified equipment, contending that Boyce is required to pay the disputed costs under the Commission's Electric Interconnection and Net Metering Standard Rules. Consumers Energy asks the Commission to find that Boyce is responsible for the identified costs, to find that neither the agreement nor applicable statutes provide for the payment of damages or litigation costs, and to dismiss the complaint with prejudice.

## II.

### **OVERVIEW OF THE RECORD**

The evidentiary record is contained in 238 transcript pages and 30 exhibits. The testimony of all witnesses is in volume 3 of the transcripts; oral argument on the motions for summary disposition is in volume 2 of the transcripts. This section reviews the evidentiary record, beginning with the direct presentations of the parties and then turning to the rebuttal testimony.

#### A. Boyce Hydro Power, LLC

Mr. Christie is General Manager for Boyce, and the operator of the Sanford plant. His educational background includes a Bachelor of Science Degree in Civil and Structural Engineering, as well as some graduate-level study, and forty years of experience with small hydroelectric plants. He testified to explain the basis of Boyce's complaint, the events leading up to the dispute, the steps Boyce has taken to resolve the dispute, and his understanding of the grounds for the dispute.

Mr. Christie presented as Exhibit BHP-1 the May 1923 agreement between Wolverine Power Company and Consumers Energy, included in Exhibit BHP-2. He testified that the agreement had an initial term of ninety-nine years and remains in effect today, with at least nine amendments. He testified that the agreement was not entered into under the Public Utility Regulatory Policy Act (PURPA), which was not enacted until 1978, but testified that the Sanford plant is a registered Qualifying Facility under that act.

Mr. Christie testified that the Sanford plant has three generating units that are fundamentally identical, and explained that water flow through the powerhouse at the

plant revolves the turbines, which spin the generators, converting mechanical energy into electrical energy that is then directed to Consumers Energy's system.<sup>1</sup> He testified that in 2013, Boyce discovered that one of the turbines had been significantly degraded, and could no longer be operated. He testified that the insulation on the windings of the connected generator had also deteriorated. And he testified that the design of the old turbines required a river flow of at least 600 cubic feet per second (cfs) to comply with a FERC licensing requirement that the plant discharge water at a rate of at least 210 cubic feet per second into the downstream river. Given these circumstances, he explained, Boyce decided to replace the damaged turbine with a new Kaplan turbine that would operate at a lower water flow, and to repair the generator.<sup>2</sup> Mr. Christie described the maintenance work on the plant beginning May 25, 2014, including the replacement of one of the three turbines at the plant, as well as the original switchgear and controls, and the rewinding of the original generator, which had been installed originally in 1925. His Exhibit BHP-3 shows the damaged 1925 propeller that was replaced. He testified that as a result of the new turbine and repairs, and corresponding increased efficiency, the capacity of the repaired generator increased by 125 kVa.

Mr. Christie testified that when Consumers Energy was informed of the maintenance work, a utility employee told him that Boyce would need to have an interconnection agreement in place before the generator could be reconnected to the utility's system. He presented the interconnection application he filed with the utility on July 21, 2014, as his Exhibit BHP-4. He testified that Consumers Energy sent Boyce the letter in Exhibit BHP-5 on December 16, 2014, identifying as the results of the

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<sup>1</sup> See Tr 92-93.

<sup>2</sup> See Tr 93-94.

utility's distribution study the equipment Consumers Energy contended Boyce needed to install. Mr. Christie testified that Consumers Energy estimated a \$160,000 cost to Boyce for the utility to provide and to install Direct Transfer Trip (DTT) and Remote Terminal Unit (RTU) communications connections. In addition, he testified, Consumers Energy directed Boyce to purchase and install related communications equipment, which Boyce estimates will cost approximately \$30,000 per year. He presented Boyce's estimate, as shared in correspondence with Consumers Energy, in his Exhibit BHP-6.

Mr. Christie then reviewed certain provisions of the agreement as amended that he believes require Consumers Energy to pay for the identified equipment. He presented a drawing in Exhibit BHP-7 to illustrate the "point of delivery" identified in the contract.<sup>3</sup> Mr. Christie also testified to his understanding that no other agreement assigns these costs to Boyce, and that the Commission's Interconnection Rules do not speak to cost responsibility.<sup>4</sup>

Mr. Christie testified that the maintenance work done on the Sanford plant did not cause a need for the equipment required by Consumers Energy, citing an email from Consumers Energy employee Don Idzior acknowledging that the equipment would be required at the current maximum historic output as well as for an increase in capacity, and also citing Mr. Harrie's testimony. He testified that nonetheless, Boyce initially understood the utility's request as related to the repaired generator, and thus sought to withdraw its interconnection application, planning to run the unit at the lower capacity, citing the correspondence in Exhibit BHP-6. He testified that Consumers Energy then refused to accept the withdrawal, citing correspondence in Exhibit BHP-8, and reiterated

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<sup>3</sup> See Tr 87-89.

<sup>4</sup> See Tr 91-92.

the additional equipment was also required at the historic capacity level. Mr. Christie testified that Consumers Energy declined to discuss any settlement of this issue, and he testified that Boyce also sought assistance from Staff, with no agreement reached regarding cost responsibility for getting the third generator at the plant back on line.

Mr. Christie testified that the new turbine and rewinding did not change the interconnection equipment at the plant. Further, he testified that the changes did not increase the maximum electrical output of the plant, which Boyce estimates at 3.75 MW. Instead, he testified, the rated capacity of the third generator increased, as measured in kVA. He distinguished the rated capacity from the actual electrical output, measured in kW, testifying that the actual electrical output is limited by the total volume of water that can be run through the turbine, the pressure pushing the water through, and the overall efficiency of the turbine generator. He testified that the efficiency improvements will increase the output of the third unit when it is operating by itself, but as the river flow increases and the other two units are put on line, physical restrictions at the turbine water intake cause a reduction in the volumes that can reach each of the turbines, limiting the total output. He testified that because Boyce is not proposing to increase output, there should be no adverse impact to the utility's system from the repair work and the plant will provide a more reliable and consistent source of power to the grid.

Turning to the DTT and RTU at issue, he testified that Boyce does not receive any additional benefit from installing this equipment since the new switchgear and controls sufficiently protect the Boyce assets in the event of a fault in the plant or on the grid. He also testified that Consumers Energy receives more reliable protection from the new switchgear.

Mr. Harrie is a consultant to Newkirk Electric Associates of Muskegon, Michigan, having served as recently as December 31, 2015 as the Engineering Manager for the consulting firm. Mr. Harrie's educational background includes an Associate's Degree in Applied Science, and he has also worked for Consumers Energy in its Laboratory Services Department maintaining and commissioning electrical systems, including distribution, transmission, and generating plants including the Campbell plant and the Ludington pumped storage plant.

He testified that Boyce contracted with Newkirk for the design, procurement, re-construction and commissioning of the electrical systems at Sanford, and presented an explanation of the nature, function, and cost of the equipment at issue. Regarding the RTU, he testified that it provides information remotely as a part of a supervisory control and data acquisition system (SCADA) used by Consumers Energy to monitor its system. He testified that it does not provide any useful information to Boyce, because Boyce has its own monitoring system to provide status and instantaneous power data. He also testified that it could be located at the plant or at a Consumers Energy substation and connected to the plant through cables. Regarding the DTT, he testified that this is a protection system that sends a trip command to remote circuit breakers, and can trip the generator at a high speed. Mr. Harrie testified that neither of these items are related to the maintenance work Boyce undertook, citing an email from Consumers Energy in his Exhibit BHP-9, which stated that the need existed without regard to the maintenance, but had not been identified previously.

Addressing the cost of the equipment, he testified that Consumers Energy's estimate of \$160,000 did not include the cost of telecommunications lines, which Boyce estimates at \$30,000 per year.

B. Consumers Energy Company

Ms. Kallio is a Senior Engineer II for Consumers Energy, with responsibilities for energy delivery, electric transmission and high voltage distribution engineering, and fault analysis. Her educational background includes a Bachelor of Science Degree in Electrical Engineering, and she has worked for Consumers Energy for over 20 years, primarily on issues involving system protection, including generation interconnection relaying, relay communications, and data communications. She testified to explain the basis for the utility's determination to require RTU and DTT for the Sanford plant, stating that she had been involved in discussions whether to require an interconnection application from Boyce, and in the review of the application Boyce submitted.

She testified that in reviewing Boyce's application, Consumers Energy used the Michigan Electric Utility Generator Interconnection Requirements, which were developed by a group of Michigan utilities based on the MPSC Electric Interconnection and Net Metering Standards (Interconnection Rules), and were approved in Case No. U-14088. She testified that these requirements include the procedures and processes outlined in the Interconnection Rules, as well as the technical requirements based on industry standards and practices.<sup>5</sup> Ms. Kallio further testified that Consumers Energy's philosophies for protecting its distribution system are contained in Consumers Energy's

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<sup>5</sup> See Tr 226-227.

Generator Interconnection Supplement to Michigan Electric Utility Generator Interconnection Requirements, which she presented as Exhibit A-1.<sup>6</sup> .

Ms. Kallio discussed both the need for an RTU and for DTT. She explained that an RTU is required for all “flow-back” projects, i.e. projects that transfer energy from the project to Consumers Energy, with a capacity of 550 kW or greater. An RTU is also required for smaller projects if DTT is required. An RTU would be located at the Sanford plant, in an indoor location acceptable to Consumers Energy.<sup>7</sup>

Ms. Kallio explained that DTT is required based on the total generation for a project in comparison to the minimum utility load that could be isolated on the system with that generation, creating an “island” on the utility’s system.<sup>8</sup> She testified that for the Sanford plant, an island could be created when the 188 breaker at the Edenville Dam substation and the 146 breaker at the Begole substation are opened.<sup>9</sup> She presented as Exhibit A-2 a one-line drawing to show these substations relative to the Sanford Dam, and she presented Exhibit A-3 to show her islanding analysis.

She further explained that an island is eliminated by detecting the island, and tripping the generator off using DTT or an alternative. Citing Institute of Electrical and Electronics Engineers (IEEE) 1547 as a standard that must be met under the Interconnection Rules, she testified that for the Sanford plant only DTT would work.<sup>10</sup> She explained that using DTT, an open breaker at one of the substations would trip the breaker at another substation, electrically separating the generation from the utility.<sup>11</sup>

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<sup>6</sup> See Tr 229

<sup>7</sup> See Tr 233.

<sup>8</sup> See Tr 228-230.

<sup>9</sup> See Tr 231.

<sup>10</sup> See Tr 230-231.

<sup>11</sup> See Tr 231.

DTT receivers would be located at the Sanford plant, with transmitters at each of the two substations.<sup>12</sup> She testified that where DTT is required, the RTU performs a monitoring function and helps evaluate the performance of the overall protective systems, citing the Interconnection Requirements approved in Case No. U-14088.<sup>13</sup>

Discussing the results of her islanding analysis, Ms. Kallio testified that because the analysis showed that the project output was greater than 33% of the load it could possibly island with, anti-islanding protecting is required. She cited the Interconnection Rules, the Interconnection Requirements, and the Consumers Energy Supplement in Exhibit A-1 as the basis for this standard. She acknowledged that the Stanford plant's output was greater than 33% of the load it could island with before the plant modifications, but testified that Consumers Energy had no basis to require anti-islanding protection unless the plant performed a "material modification".<sup>14</sup> She also cited Ms. Martinez's Exhibit A-12 in support of her testimony. Testifying that Consumers Energy does not routinely perform an island analysis unless a material modification is made at a project, she further testified that the fact that the islanding condition existed before the capacity increase only means that the project posed a risk to the distribution system that Boyce had not yet mitigated.<sup>15</sup>

Ms. Kallio also testified that there would be benefits to the Sanford plant from the DTT and RTU. She testified that the DTT could help protect Boyce's system, because when the utility closes a breaker at the remote station and the generator is running, the

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<sup>12</sup> See Tr 232.

<sup>13</sup> See Tr 233.

<sup>14</sup> See Tr 236.

<sup>15</sup> See Tr 236.

two systems may not be in sync with each other and damage could occur.<sup>16</sup> She testified that RTU could benefit the project by allowing it to return to service more quickly after a trip of any portion of the project.<sup>17</sup>

Theresa K. Martinez is a Distribution Agreements Engineer for Consumers Energy, in its Energy Delivery, Electric Customer Service and Infrastructure Group. Her educational background includes a B.S. degree in electrical Engineering, and graduate work in multiple areas. She has worked for Consumers Energy for 16 years, and her responsibilities in her current job include facilitating the development of agreements involving interconnection, monitoring compliance for approximately 900 interconnection agreements, and overseeing a wholesale contract between Consumers Energy and METC.<sup>18</sup>

Ms. Martinez's direct testimony discussed the history of the Sanford plant including the history of the plant ownership and she identified the 1923 agreement between Consumers Power Company and Wolverine Power Company, including its amendments, as contained in her Exhibit A-4. She testified that she has been involved in internal reviews of the agreement relating to the Sanford plant, and testified that the Sanford dam site consists of Boyce's generation and associated equipment, Consumers Energy's interconnection facilities appropriate "to provide generation system stability and receive the generation," and any applicable relays, breakers and metering equipment.<sup>19</sup> Ms. Martinez further described Boyce's equipment at the site based on a diagram prepared by Consumers Energy and intended to reflect operations as of

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<sup>16</sup> See Tr 234.

<sup>17</sup> See Tr 235.

<sup>18</sup> See Tr 155-156.

<sup>19</sup> See Tr 159.

July 4, 2014, her Exhibit A-5. She testified that Boyce had at that time three generators each with a 1,375 kVA nameplate rating, which translates to 1,100 kW.<sup>20</sup> She identified the nameplate rating as 344A, 0.8 power factor, 2300 V and 225 rpm. She testified that Boyce's application shows two generators with a 1,375 kVA nameplate rating and one generator with a 1,500 kVA nameplate rating (375A, 0.8 power factor, 2300 V and 225 rpm).<sup>21</sup> She presented a diagram in her Exhibit A-6 to show the point of interconnection between the Sanford plant and Consumers Energy.

Ms. Martinez testified extensively regarding the Interconnection Rules and application process.<sup>22</sup> She testified that the Interconnection Rules, R 460.601a *et seq.*, and the Interconnection Requirements approved in Case No. U-14088 are applicable to generator interconnection, presenting the requirements applicable to the Sanford plant as her Exhibit A-7. She testified that the interconnection process begins with a generator filing an application, and is complete when the application is approved for parallel operation and executes an interconnection agreement with the utility or is notified of needed corrective actions.<sup>23</sup> She provided a more-detailed nine-step summary of the process.<sup>24</sup>

Ms. Martinez testified that Boyce increased the capacity of one generating unit from 1,375 kW to 1,500 kW, resulting in the Sanford project capacity being upgraded from 4.125 MW to 4.25 MW.<sup>25</sup> She characterized this as a "material modification" under the Interconnection Rules. Ms. Martinez claimed that Boyce violated the Interconnection

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<sup>20</sup> See Tr 159.

<sup>21</sup> See Tr 160.

<sup>22</sup> See Tr 161-167.

<sup>23</sup> See Tr 162.

<sup>24</sup> See Tr 163.

<sup>25</sup> See Tr 166.

Rules by failing to complete the interconnection process, i.e. by failing to pay for the required distribution system upgrades. She presented Boyce's interconnection application as Exhibit A-9, and its agreement for Consumers Energy to undertake a distribution study as Exhibit A-10. She testified that Consumers Energy completed the study as shown in its December 16, 2014 letter, her Exhibit A-11, which showed the need for DTT as anti-islanding protection and for RTU to support the DTT.<sup>26</sup>

As Ms. Kallio did, Ms. Martinez explained the concept of an "island", testifying that it can cause significant safety hazards and customer service issues.<sup>27</sup> She testified that Consumers Energy identifies a potential island by determining if the connected generation can, if generating at full capacity, generate enough power to support greater than 33% of the load on that section of the distribution system. She testified: "Consumers Energy will only require an islanding protection if a distribution study is performed and finds a need under the technical test."<sup>28</sup> Testifying that the distribution study found that an island could occur, she presented as Exhibit A-12 an April 29, 2015 email from Consumers Energy to Mr. Harrie further explaining the test. She disputed Mr. Harrie's testimony at Tr 149 that the need for the DTT and RTU was not caused by the maintenance work, testifying that the need for the DTT and RTU was only discovered because of the interconnection application. She testified that the Interconnection Rules do not require a distribution system owner to perform a study outside the interconnection process.<sup>29</sup>

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<sup>26</sup> See Tr 166-167.

<sup>27</sup> See Tr 168.

<sup>28</sup> See Tr 168.

<sup>29</sup> See Tr 169-170.

Presenting Boyce's July 12, 2015 letter seeking to withdraw its interconnection application as Exhibit A-13, Ms. Martinez concluded that this violated the Interconnection Rules.<sup>30</sup> She testified: "Because the Interconnection Process had been triggered by Boyce's material modification . . . the options available to Boyce at this point . . . either a) agree to pay . . . (b) not proceed . . ." <sup>31</sup> Ms. Martinez testified to her opinion that in addition to paying for the distribution system upgrades, Boyce was required to "sign an interconnection agreement."<sup>32</sup> She testified that Consumers Energy did not accept Boyce's withdrawal, identifying as Exhibit A-14 Consumers Energy's June 2, 2015 responsive letter, arguing that Consumers Energy does not have discretion under the Interconnection Rules. Presenting as Exhibit A-15 Boyce's subsequent June 26, 2015 email, which disputed that Boyce had made a material modification, and noting that Boyce had by that time retained legal counsel, Ms. Martinez argued that Boyce's view as expressed in that letter was contradicted by its application and distribution study.<sup>33</sup>

In arguing that Boyce's maintenance work constituted a "material modification" that triggered application of the Interconnection Rules,<sup>34</sup> Ms. Martinez testified to her opinion that the "maximum electrical output of a project" means the nameplate capacity, which she further explained is "the maximum amount a generator can produce under specific conditions, as rated by the manufacturer." She also testified to her opinion that this interpretation is consistent with the "intent" of the Interconnection Rules, citing the requirement in the rules that an application include the generator nameplate voltage,

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<sup>30</sup> See Tr 170-171.

<sup>31</sup> See Tr 171.

<sup>32</sup> See Tr 171-172.

<sup>33</sup> See Tr 173.

<sup>34</sup> See Tr 173-183.

generator nameplate watts or volt-amperes, generator nameplate power factor, and rpms of the generator. She also cited the classification of generators by size based on nameplate capacity. Ms. Martinez further argued that the Interconnection Rules do not require a generator to submit information on its actual historical or expected actual output, and “good utility practice” is to evaluate the distribution system as if the maximum generator capacity is available.<sup>35</sup> Repeating the argument that Boyce’s application and distribution study agreement undercut Boyce’s argument that it did not make a material modification, she testified that Boyce appears to claim that a potential increase in the maximum electrical output is insufficient to trigger the Interconnection Rules and then explained why she disagreed with such a claim.<sup>36</sup> Among other statements, Ms. Martinez asserted that Boyce’s position would allow it to increase its capacity five-fold, and not let Consumers Energy know of the change until its actual output exceeded its historic peak output.<sup>37</sup>

Ms. Martinez testified: “Any time a new or modified generator desires to run in parallel with the distribution system, Consumers Energy must perform an engineering review to verify that proper protective devices are in place and a proper connection that will not permit islanding.”<sup>38</sup> She identified risks to the distribution system and the public: “It is much safer for the public, the generator, and these individuals and these systems... if appropriate system protection equipment is in place before parallel operation begins.”<sup>39</sup>

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<sup>35</sup> See Tr 175.

<sup>36</sup> See Tr 176-183.

<sup>37</sup> See Tr 179.

<sup>38</sup> See Tr 178.

<sup>39</sup> See Tr 179-180.

Acknowledging Mr. Christie's testimony that the physical restriction of the plant's water intake system limits the power that can be produced, Ms. Martinez also asserted that Boyce's position is equivalent to claiming it could modify the turbine intake structure to increase the amount of waterflow through its system and not trigger the Interconnection Rules.<sup>40</sup> Ms. Martinez testified that although Boyce has identified 3.75 MW as the Sanford plant's historical peak output, Consumers Energy records show that plant output exceed that amount 20 times over the last 11 years, with a chart at Tr 183 showing a maximum output of 3810 kW in 2006, with a maximum in three other years of 3780, 3789 and 3786 kW.<sup>41</sup> And she cited a discovery response in her Exhibit A-16 as an admission by Boyce that capacity would increase by 0.2 to 0.25 MW.

Ms. Martinez next argued that the Interconnection Rules require Boyce to pay for the distribution system upgrades.<sup>42</sup> In the final section of her testimony, Ms. Martinez argued that Consumers Energy did not violate the 1923 Agreement as amended. Among the arguments, she asserted that the RTU and DTT at issue are not part of the equipment or apparatus necessary for the receiving of energy under section 6 of the agreement, and that even if they are necessary, Consumers Energy's only duty is to "repair and maintain" the equipment or apparatus, not to install it.<sup>43</sup> Turning to section 8 of the agreement, she argued that Boyce's commitment in that section to furnish sites for the equipment and apparatus necessary for the proper receipt, protection, and transformation of energy received by Consumers Energy does not relate to anything

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<sup>40</sup> See Tr 180-181.

<sup>41</sup> See Tr 181-183.

<sup>42</sup> See Tr 183-184.

<sup>43</sup> See Tr 186.

that might be installed in the future.<sup>44</sup> She also testified that because RTU and DTT have never been installed at the plant, and Consumers Energy has been receiving energy without issue for decades, it cannot reasonably be said that the RTU and DTT are “necessary” for Consumers Energy to receive, protect or transform the energy delivered by Boyce.<sup>45</sup> And turning to section 24, she characterized that section as “essentially a force majeure clause” and disputed that RTU or DTT would be required to render Consumers Energy’s distribution system “capable and efficient and free, so far as reasonably possible, of liability to accident, damage or destruction. . . .” as provided in that section.<sup>46</sup> In her view, the language requires Consumers Energy to follow “good utility practice” in maintaining its distribution system, but does not require Consumers Energy to pay for or install new equipment in connection with an increase in a generator’s capacity.<sup>47</sup> She reiterated that Consumers Energy has, without RTU or DTT, capably and efficiently received power from the plant for decades without incident.<sup>48</sup>

Ms. Martinez also argued that the agreement does not address who is responsible for upgrades due to an increase in capacity, calling this a gap in the agreement that the Interconnection Rules fill.<sup>49</sup> In support of this claim, she also presented as Exhibits A-19 and A-20 discovery responses from Boyce indicating that it is not aware of any conflicts between the 1923 Agreement and the Interconnection Rules. Finally, she testified that in 1987, correspondence between Consumers Power

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<sup>44</sup> See Tr 187.

<sup>45</sup> See Tr 189.

<sup>46</sup> See Tr 190-191.

<sup>47</sup> See Tr 191.

<sup>48</sup> See Tr 191.

<sup>49</sup> See Tr 191-192.

Company and Wolverine show that Wolverine paid for upgrades to relays that would protect Consumers Energy's distribution system, presenting the correspondence as Exhibits A-17 and A-18.

C. Rebuttal

In his rebuttal testimony, Mr. Christie addressed statements in Ms. Kallio's and Ms. Martinez's prefiled direct testimony. He took issue with Ms. Kallio's testimony that an island was possible "due to" the upgrade at the Sanford plant, citing her testimony as an acknowledgment that the project's output was already greater than 33% of the utility load it could island before the increase in the capacity of a generator. He also cited Consumers Energy's June 2, 2015 letter as an acknowledgment that the new equipment is also necessary for parallel operation at the current output level.<sup>50</sup> Mr. Christie concluded from his communications with Consumers Energy that as long as the utility believed it would have to pay for system upgrades, it was not concerned about the upgrades, but saw an opportunity to have Boyce pay for those upgrades. He also took issue with Ms. Martinez's testimony disputing that Consumers Energy was required to pay for the upgrades under the 1923 agreement as amended.

Consistent with his direct testimony, Mr. Christie disputed that the Sanford plant would benefit from the RTU and DTT, explaining that Boyce requires an operator to physically restore operations after an interruption, in order to verify conditions, and does not want automatic reclosure or restarts.

Mr. Christie also took issue with Ms. Martinez's testimony regarding differences between the Sanford plant as described in Boyce's application and a one-line diagram she presented as Exhibit A-5. He testified that the one-line diagram had not come from

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<sup>50</sup> See Tr 102-103.

Boyce and had never been reviewed by Boyce, making any differences between the plant and the one-line drawing irrelevant.

Mr. Christie expressly disputed Ms. Martinez's argument that Boyce's application constituted an acknowledgement that Boyce materially modified the plant. He explained that he merely complied with Consumers Energy's demand for the application, and that it was not until Consumers Energy made clear that it intended Boyce to pay for the costs of the upgraded protective equipment that Boyce reexamined the basis for the original demand and determined that no application was required because the maximum electrical output of the plant would not change from historical levels.<sup>51</sup> Mr. Christie also challenged Ms. Martinez's characterizations of Boyce's position and restated Boyce's position that the project will not be physically capable of producing electrical output above historical levels.

Addressing Consumers Energy's information regarding the historical maximum output of the plant, Mr. Christie testified that he did not dispute the company's figures, but stated that Boyce has only received hourly readings from Consumers Energy for the last two-and-a-half years, further testifying that the data confirms his testimony that the Sanford plant is not capable of producing the full combined nameplate capacity of the three generators.<sup>52</sup>

And finally, Mr. Christie disputed that the letters Consumers Energy presented as Exhibits A-17 and A-18 regarding work done in 1987 provide guidance regarding the proper interpretation of the agreement.

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<sup>51</sup> See Tr 113-114.

<sup>52</sup> See Tr 120-121.

D. Cross-examination

Mr. Christie was cross-examined on his testimony, and explained that the third generator is still out of service, further discussing some of the problems Boyce has been having with the new turbine. He also testified that there was a fire in 2015 in the old switchgear that put the entire plant off line for six months. He also explained the different usages of “kVA” and “kW”, and the use of a power factor in converting between the two, explaining that notwithstanding the nameplate power factor of .8, hydroelectric plants operate with a power factor very close to 1. He also provided some additional information regarding other generator rewindings at the plant, with the most recent dating to around 1990.

Ms. Martinez was also cross-examined on her testimony. Discussing the Interconnection Rules, she acknowledged that modifications that are not “material modifications” do not need to go through the interconnection process. She also agreed that there was the potential for islanding at the level of nameplate capacity installed at the plant prior to the modification.<sup>53</sup> She clarified that in taking issue with Mr. Harrie’s testimony on this point, she meant that the need for the protective equipment was not identified until Consumers Energy performed a distribution study. She testified that the increased capacity does not make the problem go away, but increases the risk.<sup>54</sup> She could not, however, quantify the increase in risk.<sup>55</sup>

She emphasized that the 33% threshold comes from the IEEE standard, and testified that if the load is above the 33% threshold, “it has increased the risk more than

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<sup>53</sup> See Tr 197-198, 200.

<sup>54</sup> See Tr 201, 215.

<sup>55</sup> See Tr 215-218.

what IEEE has said that we should take, or require the generator to react to.”<sup>56</sup> And she testified: “[W]e follow what IEEE has indicated as being engineering best practice and we follow that standard.”<sup>57</sup> Ms. Martinez also testified that if the Boyce maintenance were not a “material modification”, the original agreement would be in place, with no recourse for Consumers Energy to ask or insist that the generator install the DTT and RTU, and Consumers Energy would not pay for the installation. She also testified, however, that Consumers Energy is not known for its lack of safety.<sup>58</sup>

### III.

#### **POSITIONS OF THE PARTIES**

Boyce argues that the fundamental dispute between the parties is who should pay for the RTU and DTT equipment Consumers Energy has identified as needed to protect its distribution system. Boyce argues that the Interconnection Rules do not assign the costs to the generator, while the 1923 Agreement requires that Consumers Energy pay for the distribution system upgrades, identifying sections 6(g), 8 and 24 as the key contractual provisions. Boyce believes Consumers Energy violated the Interconnection Rules or misapplied them by concluding that the maintenance work at the Sanford dam was a “material modification” to the plant, and by refusing to defer to Boyce’s determination of what constituted a material modification. Boyce asks the Commission to find that the maintenance work did not cause the islanding risk Consumers Energy has identified, that Boyce did not make a material modification to the Sanford plant, and that Consumers Energy is required under the agreement to pay

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<sup>56</sup> See Tr 207.

<sup>57</sup> See Tr 209.

<sup>58</sup> See Tr 213.

for the distribution system upgrades. Boyce asks the Commission to require Consumers Energy to cease efforts to prevent Boyce from reconnecting all three generators to its distribution system and to expedite the return of all Sanford plant generators to commercial service.

Consumers Energy argues that Boyce has violated the Interconnection Rules by making a material modification without paying for the upgrades, arguing that the Interconnection Rules require a generator to pay for distribution system costs. Consumers Energy disputes that it has an obligation to pay for distribution system upgrades under its contract with Boyce, contending that Boyce is misreading that agreement. Consumers Energy asks the Commission to find that Boyce is responsible to pay for the upgrades and that Consumers Energy has not violated the contract.

#### **IV.**

#### **BACKGROUND**

Before discussing the disputes among the parties, some background regarding the Commission's interconnection rules and the 1923 agreement between Consumers Energy and Boyce is appropriate. The agreement is discussed in section A; the background to the interconnection rules is discussed in section B.

##### **A. 1923 Agreement**

As noted above, the 1923 agreement between Wolverine Power Company and Consumers Power Company provided for the construction and operation of four dams, including the Sanford dam, now operated by Boyce. The original agreement is dated May 31, 1923, with a term of 99 years, and the original parties to the agreement were Consumers Power Company and Wolverine Power Company. This original agreement

is contained at pages 1 through 40 of Exhibit A-4, with the amendments in subsequent pages. Consumers Energy asserts that its packet of amendments is more complete than the packet submitted by Boyce, so this PFD references Consumers Energy's exhibit. Although the agreement has been amended several times, most of the original terms of the agreement are still in effect and bind the successor parties in interest, Consumers Energy and Boyce. The original agreement and the amendments are referred to collectively as the 1923 Agreement in this PFD.

The 1923 Agreement is more than simply an "interconnection agreement," but provided comprehensively for the acquisition of the property needed to construct the dams, for the construction and operation of the dams, and for Consumers Power to purchase essentially all the power produced by the dams. Indeed, Wolverine incorporated in order to build and operate these dams.<sup>59</sup> The initial agreement had a term of 99 years. Section 1 describes the property owned by Wolverine and the property to be acquired for the dams.<sup>60</sup> Section 2 contains Wolverine's agreement to construct the dams and hydroelectric generating plants "for the purpose of enabling [Wolverine] to furnish to [Consumers Power] the output of electric energy hereinafter provided."<sup>61</sup> Section 3 addresses the time of construction, indicating the dams were to be completed by the end of 1925.<sup>62</sup> Section 4 provides: "The characteristics of all the electrical and mechanical apparatus at each of said developments and of the transforming and protective devices, transmission lines and apparatus installed by

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<sup>59</sup> See June 14, 1923 order, *In The Matter of the Application of the Wolverine Power Company for Authority to File its Articles of Incorporation with the Secretary of State, and to Issue and Sell Securities*, Michigan Public Utilities Commission Case No. D-1855, published in volume 5, *Orders and Opinions of the Michigan Public Utilities Commission* (Fort Wayne Printing Co), page 552.

<sup>60</sup> See Exhibit A-4, pages 1-31.

<sup>61</sup> See Exhibit A-4, page 31.

<sup>62</sup> See Exhibit A-4, page 32.

[Wolverine] shall be subject to the approval of both parties before [Wolverine] shall purchase the same.” Section 5 states that the aggregate maximum capacity of the four developments shall be approximately 12,000 kW, and the estimated average delivery approximately 50,000,000 kWh. Section 6 addresses the operation of the dams. Section 6(a) provides that: “All of such plants shall be constructed, operated and maintained by [Wolverine] and at its own expense at not less than the capacity originally installed.”<sup>63</sup> Section 6(b) states Wolverine’s obligation to sell and Consumers Power’s obligation to buy the output of the plants. Sections 6(c), 6(d) and 6(e) provide for the plants to be operated under the direction of Consumers Power’s load dispatcher, with certain limits. Section 6(f) states the obligation for Wolverine to continuously generate and deliver energy, within the terms of the agreement, or compensate Consumers Power “for all loss and damage caused thereby.”<sup>64</sup> Section 6(g) states:

[Wolverine] agrees that the operation of its said generating plans and other equipment shall be continuously carried on and conducted in an efficient manner. It further agrees at all times to keep in repair and efficient operating condition all the property, machinery and apparatus used in the generating and delivering of the energy to [Consumers Power], and [Consumers Power] agrees to keep in repair and maintain the apparatus necessary for the receiving of such energy so delivered, and its transmission line connecting the point of delivery with [Consumers Power’s] distribution system.<sup>65</sup>

Section 6(h) provides that: “In case of accident to plant, apparatus, equipment or transmission line, the owner thereof agrees to use due diligence in making necessary repairs as speedily as possible.”

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<sup>63</sup> See Exhibit A-4, page 32.

<sup>64</sup> See Exhibit A-4, page 33.

<sup>65</sup> See Exhibit A-4, pages 33-34.

Section 7 specifies the alternating current frequency and voltage; section 8 specifies the point of delivery; and section 9 specifies the metering of the energy.<sup>66</sup> In specifying the point of delivery, section 8 provides:

[Wolverine] further agrees that it will furnish to [Consumers Power], without expense, sufficient ground for sites for outdoor substations and for all equipment and apparatus necessary for the proper receipt, protection and transformation of the energy received by [Consumers Power]. [Wolverine] further agrees to furnish [Consumers Power] with a perpetual easement for construction, maintaining and operating steel tower or wooden pole transmission lines and telephone lines, over and across any property owned by [Wolverine], but any and all such easements shall be subject to the use and occupation of the property by [Wolverine] and shall in no wise interfere with the use and operation of said property by [Wolverine].<sup>67</sup>

Section 10 contains the pricing terms, section 11 states the 99-year term of the agreement, and section 12 provides for readjustment of the price.<sup>68</sup> Section 13 provides for Consumers Power to have access to Wolverine's property:

In order to exercise the rights and privileges hereby granted to it, [Consumers Power] shall have the right of access to the plants of [Wolverine], at all reasonable times. [Consumers Power] shall also have the right of egress and ingress across the premises of [Wolverine], in order to erect, maintain, supervise, and operate the substations, transmission lines and other property and equipment of [Consumers Power], located upon the premises of [Wolverine].<sup>69</sup>

And section 14 permits Consumers Power to use water at the Edenville development for the purpose of cooling its transformers.

Section 15 of the agreement addresses variations in load and voltage as follows:

On account of [Consumers Power] being obligated under this contract to take a large quantity of electric energy during periods of [Consumer Power's] light load, as well as at other times, [Wolverine] agrees that its equipment shall be designed, installed, kept in repair and operated so as

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<sup>66</sup> See Exhibit A-4, page 34.

<sup>67</sup> See Exhibit A-4, page 34.

<sup>68</sup> See Exhibit A-4, pages 34-35.

<sup>69</sup> See Exhibit A-4, pages 35-36.

to property take care of variations of load and voltage for [Consumers Power's] entire sixty cycle system. To provide for these conditions, the specifications of all generating equipment to be installed by [Wolverine] shall meet the approval of [Consumers Power] prior to the purchase of the same.<sup>70</sup>

The provisions of this section shall not in any way affect, qualify or limit the provisions of Section 4 of this contract.

Section 16 provides that Wolverine will operate but not maintain the transforming and switching substation of Consumers Power. Sections 17 and 18 provide for Consumers Power to take possession of the dams upon certain defaults by Wolverine, subject to specific procedures.<sup>71</sup> Sections 19 and 20 further address the rights of the parties in the event of a default.<sup>72</sup> Section 21 states Consumers Power's obligation to convey certain property to Wolverine, while section 22 states that the terms and provisions of the contract will be considered a covenant running with the land.<sup>73</sup> Section 23 contains an arbitration clause.<sup>74</sup> Section 24 states:

This agreement on the part of [Wolverine] is subject to accidents and acts of God, affecting its dams, plants, machinery, transmission lines and property used in the generating, production and delivery of electric energy, and as to [Consumers Power] is subject to accidents and acts of God affecting its transmission lines and substations used in the transmission of said electric energy from the property of [Wolverine] to the station of [Consumers Power], including its transforming station at Zilwaukee, and is subject to the acts of God, including fires and damage caused by lightning or electricity and violent storms affecting the remainder of the its 60 cycle system. *[Consumers Power] shall at all time construct and maintain its 60 cycle system in a first class modern manner and condition so as to render it capable and efficient and free, so far as reasonably possible, of liability to accident, damage or destruction from any thing or cause excepting only*

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<sup>70</sup> See Exhibit A-4, page 36.

<sup>71</sup> See Exhibit A-4, page 36.

<sup>72</sup> See Exhibit A-4, page 37.

<sup>73</sup> See Exhibit A-4, page 37.

<sup>74</sup> See Exhibit A-4, pages 36-37. Although the agreement contains an arbitration clause for disputes, both parties have asked in this case that the Commission interpret the agreement. See, e.g., Consumers Energy brief, page 16; Boyce brief, page 21

*acts of God including fires and/or damage caused by lighting or electricity or violent storms.*<sup>75</sup>

Section 25 provides that the agreement is binding on the successors and assigns of the respective parties. Finally, section 26 provides for the execution and recording of the agreement.<sup>76</sup>

Also included in Exhibit A-4 are several amendments to the agreement. The Supplement to Agreement dated January 14, 1952, revises the price paid;<sup>77</sup> the Supplement and Amendment to Agreement dated September 9, 1955, revises the price, revises the voltage under section 7 of the agreement, revises the delivery point under section 8 of the agreement, and revises the measurement under section 9 of the agreement.<sup>78</sup> The Second Supplement and Amendment to Agreement dated June 21, 1963, revises the price and includes a capacity payment based on the nameplate capacity of the generators at the four plants. It also provides that Wolverine is allowed 120 days to repair or replace an incapacitated generator before the capacity charges are reduced. Again, the voltage, delivery points, and measurement provisions are amended. Also, Wolverine conveys certain substations to Consumers Power, including associated transmission lines, towers and equipment, and Consumers Power agrees to maintain those facilities.<sup>79</sup> The Third Supplement and Amendment to Agreement, dated December 1, 1965, again transfers title and responsibility for maintenance of certain substations and associated equipment, and changes the voltage and delivery points.<sup>80</sup> The Fourth Supplement and Amendment to Agreement, dated June 8, 1970, changes

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<sup>75</sup> See Exhibit A-4, page 38.

<sup>76</sup> See Exhibit A-4, page 38.

<sup>77</sup> See Exhibit A-4, pages 41-51.

<sup>78</sup> See Exhibit A-4, pages 52-57.

<sup>79</sup> See Exhibit A-4, pages 58-66.

<sup>80</sup> See Exhibit A-4, pages 67-71.

the pricing, including an on-peak and off-peak price and a capacity payment based on the nameplate generating capacity of the generators at the dams.<sup>81</sup> The Fifth Supplement and Amendment to Agreement, dated July 1, 1975, also revised the pricing provisions.<sup>82</sup> The Sixth Supplement and Amendment to Agreement adjusted the pricing provisions and required “an annual inspection and report of all [the] generating units and dams made by an independent engineering firm to be mutually agreed upon by both parties.”<sup>83</sup> The Seventh Supplement and Amendment to Agreement, dated January 1, 1986, revised the pricing terms and also included an agreement by Wolverine to “continue its recently started program of rehabilitation of all of its hydroelectric generating units and dams,” with a commitment to spend a minimum of \$2.5 million through December 31, 1995, and an additional \$250,000 each year thereafter that the Seventh Supplement and Amendment to Agreement remained in effect.<sup>84</sup> The Eighth Supplement and Amendment Agreement, dated January 1, 2007, acknowledged that the dams had received licenses from the Federal Energy Regulatory Commission (FERC) since the date for the prior amendment. This amendment acknowledged that Wolverine’s interests had been assigned to Synex Michigan, LLC, changed the pricing terms, changed the termination provisions, and required Synex to comply with all licensing and other orders and directives as may be received from the FERC.<sup>85</sup> The Ninth Supplement and Amendment to Agreement, dated January 1, 2014,

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<sup>81</sup> See Exhibit A-4, pages 72-75.

<sup>82</sup> See Exhibit A-4, pages 76-82.

<sup>83</sup> See Exhibit A-4, pages 83-87, quotation at page 86.

<sup>84</sup> See Exhibit A-4, pages 88-115, quotation at page 90.

<sup>85</sup> See Exhibit A-4, pages 116-118.

acknowledges that Synex changed its name to Boyce Hydro Power, LLC, and revised the pricing terms.<sup>86</sup>

B. Interconnection Rules

The Commission first adopted rules expressly addressing interconnection following the enactment of 2000 PA 141. Section 10e of this statute provided:

(1) An electric utility shall take all necessary steps to ensure that merchant plants are connected to the transmission and distribution systems within their operational control. If the commission finds, after notice and hearing, that an electric utility has prevented or unduly delayed the ability of the plant to connect to the facilities of the utility, the commission shall order remedies designed to make whole the merchant plant, including, but not limited to, reasonable attorney fees. The commission may also order fines of not more than \$50,000.00 per day that the electric utility is in violation of this subsection.

(2) A merchant plant may sell its capacity to alternative electric suppliers, electric utilities, municipal electric utilities, retail customers, or other persons. A merchant plant making sales to retail customers is an alternative electric supplier and shall obtain a license under section 10a(2).

(3) The commission shall establish standards for the interconnection of merchant plants with the transmission and distribution systems of electric utilities. The standards shall not require an electric utility to interconnect with generating facilities with a capacity of less than 100 kilowatts for parallel operations. The standards shall be consistent with generally accepted industry practices and guidelines and shall be established to ensure the reliability of electric service and the safety of customers, utility employees, and the general public. The merchant plant will be responsible for all costs associated with the interconnection unless the commission has otherwise allocated the costs and provided for cost recovery.

(4) This section does not apply to interconnections or transactions that are subject to the jurisdiction of the federal energy regulatory commission.<sup>87</sup>

In Case Nos. U-12485 and U-13745, the Commission considered the standards to adopt for the interconnection of merchant plants with the transmission and distribution

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<sup>86</sup> See Exhibit A-4, pages 119-120.

<sup>87</sup> See MCL 460.10e.

systems of electric utilities, to implement this statutory provision. In its July 8, 2003 order, the Commission adopted rules R 460.481 *et seq*, 2003 MR 18.

The Commission subsequently revised these rules. In Case Nos. U-15113 and U-15239, the Commission investigated the interconnection of independent power producers with utility systems, requiring the utilities to issue reports, and considered revising the interconnection rules. In Case No. U-15787, the Commission adopted revised rules, R 460.601 *et seq.*, including net metering rules to reflect the interim adoption of 2008 PA 295.<sup>88</sup> The rules adopted in that docket are the rules at issue in this proceeding. Ms. Martinez distilled the requirements of the rules to 9 discrete steps in her testimony:

1. The Generator Owner submits an application to the electric utility and provides a one-line diagram of the Project. Rule 20(1) – (4).
2. If the electric utility determines during the application review that engineering review is required, the electric utility notifies the applicant of this need and of the review cost. Rule 20(5).
3. If the applicant elects to proceed with the engineer review, the electric utility completes its review within 45 days (for Category 5 projects). Rule 20(6).
4. If the engineering review indicates that a distribution system study is necessary, the electric utility provides information regarding the study to the applicant (e.g., its cost, etc.). Rule 20(7).
5. If the applicant elects to have the electric utility perform the distribution system study, then the electric utility shall perform the study. Rule 20(7).
6. The electric utility “shall notify the applicant of its completed distribution system study findings along with any distribution system construction or modification costs to be paid by the applicant.” Rule 20(9).
7. Next, “[i]f the applicant agrees, in writing, to pay the cost identified in subrule (9) of this rule, the electric utility shall complete the distribution

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<sup>88</sup> See March 18, 2009 order, Case No. U-15787; May 26, 2009 order, Case No. U-15787.

system upgrades and the applicant shall pay for the upgrades and install the project within a mutually agreed upon time period.” Rule 20(10).

8. The applicant notifies the electric utility when it has completed its installation and allows the electric utility to witness or perform any commissioning tests required by IEEE 1547.1 and inspect the project. Rule 20(11).

9. After completing the commissioning test report, the electric utility shall notify the applicant of its acceptance of the commissioning test report and shall notify the applicant of its approval or disapproval of the interconnection. If approved, the electric utility shall provide the applicant with an interconnection agreement. The applicant “shall sign and return the interconnection agreement to the electric utility before beginning parallel operation.” Rule 20(12).<sup>89</sup>

## V.

### **DISCUSSION**

In the discussion that follows, the applicability of Rule 22 of the Interconnection Rules to the Sanford Dam is discussed in section A, while the question whether the repair work at the dam constitutes a “material modification” under that rule is addressed in section B. Section C addresses the pre-existing obligations of the parties under the 1923 agreement.

#### A. Does Rule 22 apply to the Sanford Plant?

Preliminary to the question whether Boyce’s turbine replacement and generator repair constitute a “material modification” under Rule 22, it is appropriate to ask whether the rules apply to a “material modification” of the Sanford dam. Although the parties initially seemed to agree that the rules would govern a “material modification” of the Sanford dam, while disputing whether Boyce’s maintenance activities constitute a “material modification,” arguments in the parties’ briefs reveal a dispute over the

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<sup>89</sup> See Tr 163.

applicability of Rule 22, including an underlying dispute over the applicability of MCL 460.10e, which provides statutory authorization for the rules.

Since this PFD reviews the applicability of the rules *de novo*, it is appropriate to consider whether a modification to a project that has been covered by an existing interconnection agreement for over 90 years is subject to those rules.<sup>90</sup> For the reasons discussed below, this PFD concludes that Rule 22 was not intended to apply to Boyce's repair work at the plant because Rule 22 only applies to projects that were initiated under the interconnection rules.

The first reason Rule 22 does not apply to maintenance of the Sanford dam stems from the text of Rule 22 itself. The only "hook" in the rules connecting the rules to the Sanford Dam maintenance work is Rule 22, which provides as follows:

The applicant shall notify the electric utility of plans for any material modification to the project. The applicant shall provide this notification by submitting a revised uniform application form and application fee along with all supporting materials that are reasonably requested by the electric utility. The applicant may not begin any material modification to the project until the electric utility has approved the revised application, including any necessary engineering review or distribution study. The application shall be processed in accordance with R 460.620.<sup>91</sup>

A review of this provision shows that it was only intended to apply to projects that were initiated under these rules. "Applicant" is defined as "the legally responsible person applying to an electric utility to interconnect a project with the electric utility's distribution system or a person applying for a net metering program."<sup>92</sup> Boyce already had an interconnected project and did not apply to interconnect its project with the utility's

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<sup>90</sup> While Consumers Energy makes much of Boyce's statement that it is subject to the interconnection rules, Boyce's statement does not explicitly state that the rules apply to a material modification of the Sanford Dam. Moreover, the parties cannot by agreement confer jurisdiction on the Commission, or preclude the Commission from examining its authority.

<sup>91</sup> See R 460.622.

<sup>92</sup> See R 460.601a(c).

distribution system. “The applicant” in Rule 22 means a person who has already submitted an application under the interconnection rules, which is clear from the requirement that “the applicant” provide “a *revised* uniform application form.” Because Boyce’s project was created and connected pursuant to the 1923 Agreement, Boyce did not have a “uniform application form” to revise.

The second reason Rule 22 does not apply to the Sanford dam maintenance is that the rule would require a revised interconnection agreement, without regard to the terms of the existing agreement. Rule 22 provides that the application is to be processed “in accordance with R 460.620.” Rule 20 requires that if an application is approved: “[T]he electric utility shall also provide to the applicant a written statement of final approval, cost reconciliation, and an interconnection agreement. The applicant shall sign and return the interconnection agreement to the electric utility before beginning parallel operation.”<sup>93</sup>

The Interconnection Rules require the use of a uniform interconnection agreement, as set forth in R 460.615 and R 460.620, and prohibit Consumers Energy from charging an applicant any fee or charge, or requiring any additional equipment, insurance, or any other requirement not specifically authorized by the interconnection standards in Part 2 of the rules, unless the fee, charge or other requirement would apply to other similarly situated customers who are not customer-generators, as set forth in R 460.604. In addition to requiring the use of a uniform agreement, the Interconnection Rules permit disconnection of a project only for noncompliance with technical or contractual requirements in the interconnection agreement, a distribution system

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<sup>93</sup> See Rule 20(12), R 460.620(12).

emergency, or routine maintenance, repairs, and modifications, for a reasonable length of time and on reasonable notice.<sup>94</sup>

In contrast to the requirements provided for in the interconnection rules, the 1923 Agreement, as amended, contains numerous obligations for Boyce that are not identical to the terms of a uniform interconnection agreement. Boyce has an obligation to maintain its plant “at *not less than* the capacity originally installed.”<sup>95</sup> Boyce’s obligation to maintain the plant is such an important part of the agreement that Consumers Energy has available to it the relatively extraordinary relief of being able to seek control of the plant. In addition, the 1923 Agreement gives Consumers Energy broad rights of access to Boyce’s property, and cooling water privileges. The 1923 Agreement is also given the status of a covenant running with the land.

While Consumers Energy speculates freely on the intent of the interconnection rules, it does not provide any citation establishing that Rule 22 was intended to apply to existing projects that were not initiated under the rules. Consumers Energy argues that the rules should be applied in order to promote safety, but does not address the problematic question of the extent to which the rules are intended to interfere with ongoing contractual relations. In essence, it is Consumers Energy’s position in this case that if Boyce’s maintenance constituted a “material modification” under the rules, Consumers Energy may legally require Boyce to sign a form interconnection agreement without regard to the pre-existing agreement. This construction of the rules is disfavored because it interferes with long-standing contractual relations. As Boyce argues:

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<sup>94</sup> See R 460.626.

<sup>95</sup> See Exhibit A-4, section 6, page 32.

Looking to agreements between an existing generator and the utility to determine the allocation of such costs between them makes sense, because an existing generator may well have older agreements in place that assign the costs between the utility and the generator, as Boyce and Consumers do here. For the Legislature or the Commission to abrogate those contractual rights by fiat, raises the potential for takings claims. For this reason, courts are reluctant to read statutes as having retroactive effects and abrogating private contracts. See, *Savage v City of Pontiac*, 743 F Supp 2d 678, 686 (ED Mich 2010) ("Where the intention to extinguish existing rights is not clearly expressed, a court ought not impute that intention to a legislature"), citing *Greene v United States*, 376 US 149, 160 (1964) ("[T]he first rule of construction is that legislation must be addressed to the future, not to the past ... [and] a retrospective operation will not be given to a statute which interferes with antecedent rights ... unless such be the unequivocal and inflexible import of the terms, and the manifest intention of the legislature."). The Commission's rules, recognizing this state of affairs, defer to existing agreements between the utility and the generator."<sup>96</sup>

The third reason this PFD concludes that Rule 22 does not apply to the Sanford Dam maintenance is that section 10e of 2000 PA 141, MCL 460.10e, does not permit modification of the existing contract between Consumers Energy and Boyce. Consumers Energy cites MCL 460.10e in support of its argument that Boyce is required to pay all costs of interconnection. Consumers Energy argues that the Commission's Interconnection Rules were promulgated initially in response to this statute. Consumers Energy cites MCL 460.10e(3), which states:

The commission shall establish standards for the interconnection of merchant plants with the transmission and distribution systems of electric utilities. . . . The standards shall be consistent with generally accepted industry practices and guidelines and shall be established to ensure the reliability of electric service and the safety of customers, utility employees, and the general public. *The merchant plant will be responsible for all costs associated with the interconnection unless the commission has otherwise allocated the costs and provided for cost recovery.*<sup>97</sup>

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<sup>96</sup> See Boyce reply brief, page 5.

<sup>97</sup> See Consumers Energy brief, page 2.

Consumers Energy argues that this provision expressly requires the generator to pay all costs associated with the interconnection unless the Commission has otherwise allocated the costs and provided for cost recovery.<sup>98</sup> Consumers Energy argues that the Commission has not specifically allocated the costs or provided for recovery of the costs associated with the plant modification, making the statutory allocation applicable. To Consumers Energy, the Commission's Interconnection Rules assign interconnection costs to the generator consistent with this statutory provision.<sup>99</sup>

In its reply brief, Boyce argues that section 10e is not applicable for several reasons. Boyce argues that section 10e(3) limits the applicability of the merchant plant obligation to pay where “the commission has otherwise allocated the costs and provided for cost recovery.”<sup>100</sup> It argues that Rule 20(10) preserves existing agreements. Boyce also argues that there are no interconnection costs because the parties are already interconnected.<sup>101</sup> Boyce also argues that section 10e does not apply because Boyce is a federally-regulated qualifying facility “subject to federal regulation”, citing subsection 10e(4):

This section does not apply to interconnections or transactions that are subject to the jurisdiction of the federal energy regulatory commission.

Boyce also cites the Eighth Supplement and Amendment Agreement, which recognizes Boyce is subject to FERC requirements.<sup>102</sup> Additionally, Boyce argues that it is not a “merchant plant” that sells to retail customers and that it fits within the intent of the language in subsection 10e(4) because it is a generator making a wholesale sale to the

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<sup>98</sup> See Consumers Energy brief, pages 2-3.

<sup>99</sup> See Consumers Energy brief, page 3 at n7.

<sup>100</sup> See Boyce reply brief, pages 4-5.

<sup>101</sup> See Boyce reply brief, pages 5-6.

<sup>102</sup> See Boyce reply brief, pages 7-9.

interconnecting utility. Boyce cites the Commission's website listing "merchant plants," noting that none of its facilities are listed.<sup>103</sup>

Boyce next argues that if section 10e does govern interconnection between the parties, Boyce should recover damages under section 10e(1) on the basis that Consumers Energy prevented or unduly delayed the ability of its plant to connect to the utility, once the modifications were made. This section provides:

An electric utility shall take all necessary steps to ensure that merchant plants are connected to the transmission and distribution systems within their operational control. If the commission finds, after notice and hearing, that an electric utility has prevented or unduly delayed the ability of the plant to connect to the facilities of the utility, the commission shall order remedies designed to make whole the merchant plant, including, but not limited to, reasonable attorney fees. The commission may also order fines of not more than \$50,000.00 per day that the electric utility is in violation of this subsection.

Boyce asks the Commission to reopen the record for a determination of damages:

Should the Commission determine that Section 10e of Act 141 applies, then Boyce would ask that the Commission reopen this proceeding in order to take testimony on the issue of the extent of the delays caused by Consumers and the costs to Boyce related to Consumers' delaying tactics in order that a record of the proper amount of damages and costs to be assessed against Consumers can be developed.<sup>104</sup>

Reviewing the provisions of section 10e and related provisions of 2000 PA 141, this PFD agrees with Boyce that the cost-allocating provision of section 10e(3) that Consumers Energy relies on does not make Boyce responsible for the distribution system upgrades. First, Boyce argues that the Commission has already allocated the costs by approving the 1923 Agreement. In this regard, it is noteworthy that the agreement was first presented to the Commission's predecessor agency, the Michigan Public Utilities Commission, shortly before the agreement was signed, as part of

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<sup>103</sup> See Boyce reply brief, pages 9-11.

<sup>104</sup> See Boyce reply brief, page 11.

Wolverine's application for authority to file articles of incorporation and to issue and sell securities. The Michigan Public Utilities Commission found in its June 14, 1923 order:

“That the lands proposed to be purchased, detailed description of which is set forth in a tentative contract between Consumers Power Company and the petitioner on file with this Commission . . . and the power plants proposed to be constructed by said petitioner, are all necessary for the full developments of all of the valuable water power.”<sup>105</sup>

It is not feasible to determine in how many rate cases and PSCR cases the Commission has approved Consumers Energy's costs under the agreement.

Second, Boyce makes a reasonable argument that the cost-allocation language of section 10e(3) does not apply under the language of section 10e(4). As quoted above, section 10e(4) expressly does not apply to “interconnections or transactions that are subject to the jurisdiction of the federal energy regulatory commission.” There is no dispute on this record that Boyce is a registered Qualifying Facility (QF) under PURPA. Boyce's complaint asserts that it is a QF; Mr. Christie testified that Boyce is a registered QF, and his testimony was not contradicted.<sup>106</sup> Boyce also appears to meet the criteria under 18 CFR 292.203 and 292.204 because it is a hydroelectric plant and because its size is below the 80 MW limit for a small power production facility. QFs are required to be certified, but certification under 18 CFR 292.207 may be obtained through self-certification or by application for FERC determination. As Boyce points out, it is also subject to FERC regulation as a licensee, and the 1923 Agreement requires Boyce

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<sup>105</sup> See June 14, 1923 order, *In The Matter of the Application of the Wolverine Power Company for Authority to File its Articles of Incorporation with the Secretary of State, and to Issue and Sell Securities*, Michigan Public Utilities Commission Case No. D-1855, published in volume 5, *Orders and Opinions of the Michigan Public Utilities Commission* (Fort Wayne Printing Co), page 555.

<sup>106</sup> See Christie, 3 Tr 85.

to follow FERC requirements.<sup>107</sup> FERC approved Boyce's application to perform the maintenance activity in a September 9, 2013 order.<sup>108</sup>

While Boyce's argument fits within the text of the statute, the Commission has interpreted this language as incorporating the seven-factor test used to determine the preemptive authority of the FERC. Nonetheless, the Commission made this distinction in Case No. U-12485 when it first addressed the language of section 10e, and it simultaneously characterized section 10e as applying to "future" projects:

The Commission is well aware that its jurisdiction over merchant plant interconnections is limited by the authority that the FERC exercises over wholesale power transactions. The Legislature was also cognizant of this fact. In Section 10e(4) of Act 141, the Legislature specifically provided that the Commission's authority to establish such standards does not extend to 'interconnections or transactions that are subject to the jurisdiction of the federal energy regulatory commission.' MCL 460.10e(4); MSA 22.13(10e(4)). With this limitation in mind, the Commission finds that it should adhere to the seven factor test applied in its January 14, 1998 orders in Cases Nos. U-11283 and U-11337 and subsequent orders in establishing merchant plant interconnection standards in accordance with Section 10e(3) of Act 141.

The Commission is aware that application of the seven factor test to individual electric utilities will not necessarily produce the same results because the operating characteristics of the electric utilities in this state are significantly different. For example, for Detroit Edison, adherence to the seven factor test means that the interconnection standards to be established as a result of this proceeding would be applicable to *all future interconnections* between merchant plants and facilities of Detroit Edison that operate at or below 41.6 kilovolts (kV), except for situations involving radial lines and related facilities that serve end-use customers. For Consumers, application of the seven factor test means that the Commission's jurisdiction would extend to all facilities that operate at or below 46 kV and to radial lines and related facilities that serve end-use customers.<sup>109</sup>

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<sup>107</sup> See Exhibit A-4, page 117.

<sup>108</sup> See Order Amending License and Revising Annual Charges, 144 FERC ¶62,200 (2013), 2013 Westlaw 4807571.

<sup>109</sup> See February 5, 2001 order, Case No. U-12485, page 4 (emphasis added).

Because Boyce merely repaired a generator it was obligated to repair under the 1923 Agreement, which requires Boyce to maintain “not less than the generation capacity originally installed,”<sup>110</sup> it is not reasonable to consider the repair work a new project or interconnection. Section 10a(8) of 2000 PA 141, MCL 460.10a(8), also explicitly provides: “The rights of parties to existing contracts and agreements in effect as of January 1, 2000 between electric utilities and qualifying facilities, including the right to have the charges recovered from the customers of an electric utility, or its successor, shall not be abrogated, increased, or diminished *by this act*, nor shall the receipt of any proceeds of the securitization bonds by an electric utility be a basis for any regulatory disallowance.”<sup>111</sup>

Thus, this PFD concludes that neither the Interconnection Rules nor section 10e was intended to address the circumstances presented here, where the parties have been operating under a power purchase agreement in effect since 1923 that expressly requires the plant to be constructed, maintained and operated at not less than the capacity originally installed, and concludes that the Interconnection Rules do not authorize Consumers Energy to modify the terms of the existing contract between Consumers Energy and Boyce.

As discussed below, this PFD also finds that Consumers Energy’s “safety” concerns are disingenuous in two key regards. First, under the existing agreement, Boyce had an obligation to obtain Consumers Energy’s approval of changes in the

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<sup>110</sup> See Exhibit A-4, page

<sup>111</sup> Emphasis added.

characteristics of electrical equipment at the plant.<sup>112</sup> Second, the islanding concern predates the plant repair work, and the change in nameplate generating capacity Consumers Energy focuses on would result in a very small increase in what was already a very large exceedance of the 33% islanding threshold.

**B. Assuming Rule 22 Applies to the Sanford Plant and 1923 Agreement, has Boyce Made a Material Modification?**

The principal question driving the dispute between the parties in this case is the question whether the modifications Boyce undertook beginning in 2014, including replacing the turbine and rewinding the generator, constituted a “material modification” under the Interconnection Rules. As quoted above, Rule 22 requires an applicant to notify the electric utility of plans for any “material modification” to the project.<sup>113</sup> Rule 1b(c) defines “material modification”:

“Material modification” means a modification that changes the maximum electrical output of a project or changes the interconnection equipment, including either of the following:

- (i) Changing from certified to noncertified equipment.
- (ii) Replacing a component with a component of different functionality or UL listing. See R 460.601b(c).

Rule 1b(i) defines “project”:

“Project” means electric generating equipment and associated facilities that are not owned or operated by an electric utility.

Consumers Energy argues that the maintenance work at the Sanford plant was a material modification because it increased the nameplate capacity of the repaired generator from 1,375 kVA to 1,500 kVA, and thus increased the total nameplate

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<sup>112</sup> See Exhibit A-4, section 4, page 32, and section 15, page 36. Mr. Christie testified that he informed Consumers Energy of the maintenance plans on December 23, 2013, before the work began. See Tr 113.

<sup>113</sup> See R 460.622.

capacity of the generators by 125 kVA from 4,125 kVA to 4,250 kVA. Consumers Energy also used the nameplate power factor of .8 to compute a nameplate capacity of 3,300 kW for the three generators before the repair work, with an increased nameplate capacity of 100 kW following the repair work. Consumers Energy relies heavily on Ms. Martinez's testimony arguing that the "maximum electrical output of a project" is synonymous with the total nameplate capacity of the generators. As discussed above, Ms. Martinez provided her opinion that nameplate capacity is the only measure of maximum electrical output that can be used. She argued, as Consumers Energy argues in its brief, that the rules expressly refer to nameplate capacity in identifying the information that must be filed with an application. Consumers Energy also argues that Boyce is precluded from challenging the company's analysis because it submitted the interconnection application, which is essentially an estoppel argument.

Boyce argues instead that the capacity of the hydroelectric dam project as a whole must be evaluated to determine whether there has been a material modification under the Interconnection Rules, emphasizing that Rule 1b(c) that explicitly refers to the maximum electrical output "*of a project*".<sup>114</sup> Mr. Christie testified that because the water intake is the limiting physical factor on the operation of the plant, the total power produced by the three generators operating together will not exceed the historical maximum output of the plant. Mr. Christie initially believed the historic maximum electrical output for the plant was 3.75 MW, but accepted Consumers Energy's information indicating the maximum electrical output had been as high as 3.8 MW on a few occasions. Boyce expressly addressed Consumers Energy's waiver/estoppel argument, pointing to Mr. Christie's testimony explaining that he submitted the

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<sup>114</sup> Emphasis added.

application at Consumers Energy's insistence, and only subsequently realized what the stakes and applicable requirements were, and then withdrew the application.

This PFD concludes that the text of the Interconnection Rules support Boyce's interpretation. The entire project, i.e. the Sanford Dam, must be analyzed to determine whether the maintenance increased "the maximum electrical output of [the] project." The maximum electrical output cannot be assumed to be the total nameplate capacity of the three generators. Indeed, the rules explicitly refer to nameplate capacity in specifying the application process for net metering:

Net metering programs provided by electric providers and alternative electric suppliers shall limit each applicant to generation capacity designed to meet the customer's electric needs.

(a) At the customer's option, the generation capacity shall be determined by 1 of the following methods:

(i) Aggregate nameplate capacity of the generator(s).

(ii) An estimate of the expected annual kWh output of the generator(s) determined in a manner approved by the commission and specified on the electric provider's net metering tariff sheet or in the alternative electric supplier's net metering program plan. See Rule 40(7), R 460.640(7).

Since the terminology was clearly available to the Commission as shown by its use in this rule, it would have been easy for the Commission to have used that terminology in defining "material modification," if that were intended to be the only inquiry. In adopting the interconnection rules in Case No. U-15787, the Commission addressed the following example, making clear that generator nameplate capacity was not the only criteria to be considered in an analysis under Rule 22:

Syndevco commented that it was not clear whether the addition of more generating capacity, that does not exceed the rating of the inverter for a category 1 system, would require additional approval by the utility. For example, a homeowner initially installs solar panels with a capacity of 2.5 kW connected to an inverter with a rating of 10 kW. A few years later,

the homeowner installs additional panels with a capacity of 5 kW, for a total capacity of 7.5 kW. The Commission finds that this hypothetical does not present a “material modification” to the project as defined in R 460.601b(c), thus R 460.622 does not apply. The Commission finds that a customer who proposes to increase generation capacity, even if a larger inverter is not required, should apprise the utility of his plans. Because this specific scenario does not describe a material modification to the project, a new application or additional fee is not required.<sup>115</sup>

This PFD also finds Mr. Christie’s testimony persuasive that the maximum electrical output of the plant will not exceed the historic maximum output due to the physical constraint of the water intake. Mr. Christie’s testimony was clear and comprehensible. He explained an issue that had puzzled the Administrative Law Judge, the use of the nameplate power factor to translate nameplate capacity of 1,375 kVA to a maximum electrical output of 1,100 MW. Ms. Martinez had explained that using the nameplate designation, nameplate kVa is converted to megawatts using the nameplate power factor, which for these turbines is .8. Mr. Christie explained that the actual power factor for hydroelectric dams is very close to 1, and thus a nameplate capacity of 1,375 kVA is essentially equivalent to 1,375 MW.

Mr. Christie’s testimony is also consistent with Consumers Energy’s historical records, despite Consumers Energy’s argument to the contrary. Although Consumers Energy had access to records unavailable to Boyce, showing a handful of instances where the maximum output from the project exceeded Mr. Christie’s ballpark 3.75 MW figure, each of these 20 measurements are well below the 4.125 MW total nameplate capacity of the generators prior to the maintenance work, using a power factor of 1.<sup>116</sup> Indeed, the highest measurement Consumers Energy recorded was 3.81 MW, and these 20 readings above 3.75 MW are hourly readings taken beginning in 2005,

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<sup>115</sup> See March 18, 2009 order, Case No. U-15787, pages 11-12.

<sup>116</sup> See Martinez, Tr 182-183.

i.e. over an eleven-to-twelve-year time period. Assuming they were taken over only an eleven-year period, 2005 to 2015, there would still be a total of over 96,000 hourly readings.

Based on Mr. Christie's testimony, this PFD finds that physical constraints on the water intake required to turn the turbines and generate electricity at the dam preclude the Sanford plant as a whole from generating a maximum electrical output above historic maximum levels. This is an engineering question: what electrical output will the water volumes permitted by the intake structure produce when all three turbines are in use? Although Boyce did not present a technical analysis with formulas and calculations, Mr. Christie's testimony based on his experience with hydroelectric dams and his knowledge as an engineer is persuasive. Consumers Energy did not present an analysis of the maximum electrical output of the plant considering the limiting physical constraints on the water intake, relying instead on its argument that only the nameplate capacity of the individual generators is relevant. Thus, this PFD finds that the maintenance work at the Sanford dam did not constitute a material modification as defined in the interconnection rules.

Contrary to Consumers Energy's argument, in claiming that the maximum electrical output of the project will not increase due to the physical limitation of the water intake structure, Boyce is not claiming that the maximum electrical output under the rules should be interpreted to mean the maximum historical output. Instead, Boyce relies on the historical output to support Mr. Christie's testimony that the water intake structures limit the output of the plant below the nameplate capacity. Thus, Consumers Energy's concerns are unfounded. Boyce is not claiming that it could increase the

water intake structure at the plant without letting Consumers Energy know, as Ms. Martinez argued.

Consumers Energy contended in its motion for summary disposition that Boyce's analysis of the maximum electrical output of the project was misplaced for five reasons:

Boyce reasons that other physical limitations at the Sanford Dam (i.e., the turbine water intake) restrict the actual production capability to less than its nameplate capacity, both before and after the Capacity Increase. Boyce's interpretation of "material modification," however, is inconsistent with the purpose of the Interconnection Rules because it (1) subverts the preventive nature of the Interconnection Rules; (2) creates unnecessary delays in the Interconnection Process; (3) requires continuous monitoring of generation output on a daily basis; (4) is harder to apply consistently, both theoretically and here; and (5) is inconsistent with information in the Interconnection Application.<sup>117</sup>

Regarding the first point, Consumers Energy argues that Boyce's interpretation creates "unnecessary risk to utility line workers and end-use customers of the distribution system," by allowing for modifications to be made without the associated protection upgrades and without the utility's knowledge.<sup>118</sup> Consumers Energy goes on to claim: "Under Boyce's interpretation of the material modification definition, Boyce could make the Capacity Increase and then, at some later point, modify the turbine intake to allow more water flow through the turbine."<sup>119</sup> There are several reasons why this claim is erroneous. First, Boyce clearly does not claim that it can increase the turbine intake to increase the maximum electrical output of the project without telling Consumers Energy. The central part of its argument is that the water intake limits the generation output when all turbines are operating. Boyce's argument reasonably and properly focuses on the definition of material modification in the interconnection rules. Second, as the

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<sup>117</sup> See Consumers Energy Motion, page 18.

<sup>118</sup> *Id.*, page 18.

<sup>119</sup> *Id.*, pages 18-19.

discussion above confirms, Boyce is required by the 1923 Agreement to inform Consumers Energy of changes in the characteristics of the generating equipment or the dams.<sup>120</sup> Third, while Consumers Energy's safety concerns regarding the islanding potential associated with the plant are discussed in more detail below, a concern for safety alone cannot alter the explicit text of the rule, which is the starting point for legal analysis. While Consumers Energy may be right that the use of nameplate capacity of generators would more often create a "material modification" than considering the project as a whole, which does not have a nameplate rating, such speculation is beside the point.

In support of its second assertion, Consumers Energy claims that the determination whether a material modification exists using Boyce's analysis could only be made after the modification has taken place. In this regard, Consumers Energy cites Mr. Christie's testimony that operation of the plant will confirm his opinion.<sup>121</sup> Again, this PFD does not find Consumers Energy's analysis persuasive. Mr. Christie relied on his lengthy experience and his engineering knowledge in concluding that the maximum output would not increase due to the replacement of the failed turbine and rewinding of the generator. As explained above, this is simply an engineering question, which Consumers Energy chose not to analyze in this case. There is no reason why a determination of the maximum output of the project to be modified cannot be made in advance of the modifications.

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<sup>120</sup> See Exhibit A-4, page 36, section 15.

<sup>121</sup> See Consumers Energy Motion, page 20.

In support of its third contention, Consumers Energy argues that continuous monitoring of actual generation output would be required and that Boyce would need to file an interconnection application if it exceeds its historical maximum output:

Further, if the generator did exceed its historic maximum output, it would then be required to shut-down all generation and go through the Interconnection Process before it could continue parallel operation.<sup>90</sup> For example, under Boyce's theory, if the Sanford Dam generates 3,811 kW (i.e., 1 kW above the historical maximum of 3,810 kW) after the Capacity Increase is complete, then it must submit an Interconnection Application and shutdown the plant until the Interconnection Process is complete. The Commission cannot have intended this inefficient result. Such inefficiency does not serve the customers and makes little sense from a policy perspective.<sup>122</sup>

Again, Consumers Energy is misstating Boyce's argument. Boyce is not arguing that the test under the rules is whether it exceeds its historical maximum output. Instead, it is arguing that the physical properties of the plant as a whole limit the generation below the nameplate capacity, and even with the .125 MVA increase in one of the generators, Boyce will not increase its maximum output. Once the determination is made in this case whether the project is a material modification, the inquiry is at an end. Note, too, that using the historical nameplate capacity of the three generators at the plant including the nameplate power factor of .8, i.e. 3,300 MW, Boyce has historically exceeded that capacity, which further shows the limitations of nameplate capacity.

In support of its fourth contention, that it is too difficult to make a determination based on an evaluation of the plant as a whole, Consumers Energy argues that Commission regulations do not provide for any methodology to make such a projection and thus Boyce's interpretation will lead to many disputes. Again, this contention is speculative. There is no evidence that the physical limitations associated with Boyce's

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<sup>122</sup> See Consumers Energy motion, page 21.

hydroelectric plant have ready parallels for other types of generating plants that are likely to be covered by the interconnection rules. Indeed, as the record and the discussion above shows, the difficulty in this case largely stems from the use of the Interconnection Rules where the parties have operated for 90 years under a contract that has been periodically amended by mutual agreement. Had the Commission wanted to avoid all difficulty associated with determining the maximum electrical output of a plant, it could simply have chosen to use the sum of the nameplate capacity of the generators. Note that Rule 8 encourages the parties to a dispute to engage in alternative dispute resolution before bringing complaints to the Commission.<sup>123</sup> In addition, recognizing that technical issues may be difficult to resolve, Rule 10 allows the Commission to appoint from 1 to 3 independent experts to investigate the complaint and report findings to the Commission.<sup>124</sup>

Consumers Energy's fifth point claims that Boyce has submitted conflicting evidence regarding whether its future projected output will exceed its historic maximum output, citing Mr. Christie's testimony:

Boyce initially thought that Consumers was claiming that the increased capacity from the repaired generator was driving the need for the new equipment and consequent costs. Since the costs of the new equipment and telecom services were much more than any incremental revenue increase that Boyce might have theoretically obtained from the increased capacity, it did not make economic sense to attempt to increase the output of the plant. Therefore, on May 12, 2015, Boyce requested withdrawal of its Interconnection Application with Consumers, as it was no longer proposing to operate the plant at the increased capacity, and so there would be no material change in plant operations to necessitate the submission of an Interconnection Application.<sup>125</sup>

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<sup>123</sup> See R 460.608.

<sup>124</sup> See R 460.610.

<sup>125</sup> See Tr 90.

Ms. Martinez also relied on this testimony in claiming that Boyce was proposing to operationally limit the generation of the plant as an alternative to installing protective equipment.<sup>126</sup> Mr. Christie presented this testimony to explain Boyce's initial reaction to the requirements identified by Consumers Energy. "Capacity" is a vague term, and could refer in this context to the increased level of production (output) Boyce hoped to achieve. Note that under the 1923 Agreement, under certain pricing amendments, Consumers Energy made "capacity payments" based on a capacity of 3,300 kW and 3,400 kW, but capacity in that context was clearly not used as a measure of "maximum electrical output". Mr. Christie did not testify that Boyce had planned to increase the maximum electrical output of the plant, and neither Boyce's application nor the distribution study contain such a statement. Likewise, Ms. Martinez cited Boyce's discovery response as shown in Exhibit A-16, projecting a "capacity increase" of .2 to .25 MW,<sup>127</sup> which he subsequently revised to .125 MW.<sup>128</sup> This also does not reflect an increase in the "maximum electrical output" of the plant, but can readily be understood as the result of a sustained increase in output, i.e. an increase in generation of 1,752 MWh per year may be stated as a capacity increase of .2 MW, since .2 MW times 8760 hours equals 1,752 MWh. When Mr. Christie revised this discovery response, he simultaneously presented testimony expressly addressing the "maximum electrical output" of the plant and testified that the maximum electrical output of the plant will not change as a result of the modification.<sup>129</sup>

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<sup>126</sup> See Tr 171.

<sup>127</sup> See Tr 182.

<sup>128</sup> See Tr 80.

<sup>129</sup> See Tr 96-97, 111-112.

Even using the nameplate capacity as a measure of the maximum total electrical output of the plant, however, this PFD finds Consumers Energy's assertions in this case troubling. Based on its claim that the .125 MVA increase in the nameplate capacity of one of the generators at the plant constitutes a "material modification" under the Interconnection Rules, Consumers Energy has told Boyce that it is responsible for paying for expensive RTU and DTT equipment to upgrade the distribution system. In making this claim, Consumers Energy repeatedly asserts that the need for islanding protection is "due to" the turbine replacement and generator rewinding at the plant, although Consumers Energy also acknowledges that the need for the islanding protection predated the repair work. Explaining these dual assertions, Consumers Energy argues that it did not need to perform a distribution study before the maintenance work, and thus was not obligated to determine whether islanding protection was needed. Consumers Energy further analogizes to the situation of having to bring a building "up to code" when sufficiently extensive remodeling or expansion is undertaken. Boyce takes issue with the utility's continued use of the phrase "due to", which also appears in Consumers Energy's briefs.

A review of the "islanding analysis" presented by Consumers Energy in Exhibit A-3 shows in stark terms how small the incremental load is relative to the islanding standards Consumers Energy uses. In this exhibit, the two areas with identified potential for islanding are labeled Island #1 and Island #2. For the first island, the exhibit states that the minimum generation load is 2.12 MVA, with 33% of that load equal to 0.7 MVA, and states that the Sanford capacity of 4.25 MVA is above the 33% threshold. From these statistics, however, it is also clear that at the pre-existing total nameplate capacity

of 4.125 MVA, the Sanford plant was well in excess of the 33% threshold. Indeed, the pre-existing nameplate capacity of 4.125 MVA is approximately 6 times the threshold, while the increased nameplate capacity of 4.25 MVA is also approximately 6 times the threshold. To be more precise, 4.125 MVA is 5.89 times 0.7 MVA, and 4.25 MVA is 6.07 times 0.7 MVA. Put yet another way, in comparison to the 33% of minimum load threshold, the 4.125 MVA pre-existing nameplate capacity for the plant is 195% of the minimum load for the Edenville-MOABS portion of the system, while the 4.25 MVA modified nameplate capacity is 200% of the minimum load threshold.

For the second island, the 4.125 MVA pre-existing total nameplate capacity for the Sanford plant is 3.1 times the 33% threshold of 1.33 MVA, while the 4.25 MVA total nameplate capacity is 3.2 times the 33% threshold of 1.33 MVA. Also put another way, the 4.125 MVA pre-existing nameplate capacity is 102% of the 4.04 MVA minimum load for the Begole-Edenville portion of the system, while the 4.25 MVA modified nameplate capacity is 105% of the minimum load. What these numbers show is that the pre-existing nameplate capacity of the Sanford plant was vastly in excess of the 33% threshold for both potential islands, and indeed substantially in excess of the minimum load for one of the islands, while the additional nameplate capacity Consumers Energy focuses on changed these exceedances by only a very small amount, i.e. moving from 5.9 times to 6.1 times the threshold for Island #1 and from 3.1 times the threshold to 3.2 times the threshold for Island #2. Thus, looking only at nameplate capacity as Consumers Energy does, the repair work has an immaterial effect on the islanding potential that existed prior to the repair work. In its August 10, 2004 order in Case No. U-14088, the Commission also stated:

The Commission expects electric utilities to comply fully with all aspects of its rules governing Electric Interconnection Standards (R 460.481 through 460.489). Although some details of the procedures may not have been included in the joint filing, the Commission expects electric utilities to be *fair and reasonable* in the implementation of the procedures. If customers or developers file complaints regarding the interconnection procedures, the Commission will review them. If such complaints identify any provisions in the detailed interconnection procedures that the Commission determines do not comply fully with MCL 460.10e or the Commission's rules, the Commission may require changes to the interconnection procedures and impose other remedies as provided by statute.<sup>130</sup>

Finally, this PFD finds that Boyce has adequately explained why it filed the "interconnection application" at the insistence of Consumers Energy, and concludes that Boyce is not barred from changing its position to the position it has argued in this case, that no interconnection application should have been required because it did not materially modify the Sanford dam project as a whole. While Ms. Martinez in her testimony also repeatedly argued that Boyce admitted it was increasing the capacity at the plant by filing the interconnection application,<sup>131</sup> it is not surprising that Boyce acted to accommodate Consumers Energy and did not evaluate the legal test under the interconnection rules until it sought legal counsel.<sup>132</sup> Exhibit A-9 is a copy of Boyce's interconnection application and Exhibit A-10 is the distribution study agreement. Indeed, Consumers Energy did not tell Boyce that under the interconnection rules, an application is only required for a "material modification"; instead, even in its letter telling Boyce it would not allow Boyce to withdraw the application, Consumers Energy stated "when there is a *modification* of generation project, the project development must

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<sup>130</sup> See order, page 3 (emphasis added).

<sup>131</sup> See e.g. Tr 173

<sup>132</sup> Ms. Martinez also treats the fact that Boyce reported the nameplate capacity of the new generator on its interconnection application (1500 kW) as an admission by Boyce that it increased the maximum electrical output of the plant. She repeats this argument throughout her testimony, without acknowledging that Boyce does not view this as an admission because Boyce disagrees with Consumers Energy's reliance on the nameplate capacity of a single generator. See Tr 173-174, 176. Ms. Martinez's lack of objectivity in framing her testimony and analysis undermines her reliability.

comply with the approved interconnection process,” and “[Boyce] has installed a new turbine generator at their Sanford Station which qualifies as a *modification* of generation project.”<sup>133</sup>

C. Does Consumers Energy have an independent obligation under the 1923 Agreement to install the anti-islanding protection?

Given the discussion above concluding that the Interconnection Rules do not abrogate the existing contractual agreement between Boyce and Consumers Energy, and given the results of Consumers Energy’s islanding analysis showing a pre-existing need for the anti-islanding protection, it is appropriate to consider whether Consumers Energy has an obligation under the 1923 Agreement to install islanding protection for its system.

As discussed above, Ms. Martinez testified at length the agreement does not require Consumers Energy to install either DTT or RTU. Consumers Energy addressed its obligations under the 1923 Agreement in its motion for summary disposition, and expressly incorporated those arguments in its initial brief.<sup>134</sup> Consumers Energy’s arguments closely track the arguments presented by Ms. Martinez in her testimony.

Boyce argues that the 1923 Agreement requires Consumers Energy to pay for the costs of RTU and DTT. Boyce’s initial brief incorporates its more extensive arguments in its motion for summary disposition and in its response to Consumers Energy’s motion for summary disposition, and also cites Mr. Christie’s rebuttal testimony.

The parties focus their disputes on sections 6, 8, and 24 of the 1923 Agreement. Section 6 is titled “Operation” and subparagraph 6(g) states:

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<sup>133</sup> See Exhibit A-14.

<sup>134</sup> See Consumers Energy brief, page 13, citing its Motion for Summary Disposition at pages 28-38.

[Boyce] agrees that the operation of its said generating plants and other equipment shall be continuously carried on and conducted in an efficient manner. It further agrees at all times to keep in repair and efficient operating condition all the property, machinery and apparatus used in the generating and delivering of the energy to [Consumers Energy], and *[Consumers Energy] agrees to keep in repair and maintain the apparatus necessary for the receiving of such energy so delivered*, and its transmission line connecting the point of delivery with [Consumer's Energy's] distribution system.<sup>135</sup>

Consumers Energy argues that this language applies only to apparatus “necessary” for the receiving of energy delivered by Boyce. It argues that RTU and DTT do not “receive” energy, since RTU is a monitoring system and DTT is a way to trip off the plant if an island occurs.<sup>136</sup> It further argues that RTU and DTT are not “necessary” for receiving such energy, and further that if they are part of the apparatus necessary for receiving such energy, Consumers Energy’s obligation under this section is expressly to “keep in repair and maintain” the apparatus, not to “install” the apparatus necessary for receiving such energy:

“Repair and maintain” refers to keeping existing equipment in good working order. The Agreement cannot reasonably be read to require the installation of new equipment that has never been at, or near, the Sanford Dam, under the guises of “maintenance” or “repair.” As such, paragraph 6(g) neither requires installation of the RTU or DTT nor requires Consumers Energy to pay for such installation.<sup>137</sup>

Section 8 is entitled “point of delivery” and states in key part:

[Boyce] further agrees that it will furnish to [Consumers Energy], without expense, *sufficient ground for site for outdoor substations and for all equipment and apparatus necessary for the proper receipt, protection and transformation of the energy received by [Consumers Energy]*. [Boyce] further agrees to furnish [Consumers Energy] with a perpetual easement for constructing, maintaining and operating steel tower or wood pole transmission lines and telephone lines, over and across any property owned by [Boyce], but any and all such easements shall be subject to the

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<sup>135</sup> See Exhibit A-4, page 33 (emphasis added).

<sup>136</sup> See Consumers Energy Motion for Summary Disposition, page 29.

<sup>137</sup> See Consumers Energy Motion for Summary Disposition, page 30.

use and occupation of the property by [Boyce] and shall in no wise interfere with the use and operation of said property by [Boyce].<sup>138</sup>

Although the delivery point was changed in subsequent amendments, this language was repeated verbatim in those amendments. Consumers Energy argues that Boyce misreads the word “proper” in paragraph 8, contending that it does not mean “first class modern” as written in paragraph 24, and that these two sections have nothing to do with each other. Consumers Energy also argues that the word “proper” in section 8 relates to the property rights that Boyce is required to provide. Further, it argues, even if Boyce is correct regarding the meaning of the word “proper”, it does not negate the word “necessary.” In this regard, Consumers Energy reiterates its argument in connection with paragraph 6, that the RTU and DTT are not “necessary” to receive the energy produced by the Sanford plant. See Consumers Energy brief, page 15.

Consumers Energy also argues that this provision only refers to equipment installed in 1965, the date of the Third Supplement and Amendment to Agreement, but does not relate to future installed equipment. Consumers Energy argues that when this language was incorporated in the Third Amendment, Wolverine was conveying transformers and related equipment to Consumers Power.<sup>139</sup> In support of its argument, Consumers Energy cites the third “witnesseth” clause of this amendment:

That [Wolverine] has requested [Consumers Power] to acquire title to certain of [Wolverine’s] facilities and to thereby relieve [Wolverine] of certain expenses, including the burden of maintaining such facilities, and [Consumers Power] has indicated its willingness to accommodate [Wolverine].<sup>140</sup>

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<sup>138</sup> See Exhibit A-4, page 34.

<sup>139</sup> See Consumers Energy Motion for Summary Disposition, pages 30-31; Martinez, Tr 187-189.

<sup>140</sup> See Exhibit A-4, page 67.

And Consumers Energy cites section 1 of the Third Amendment, which transferred from Wolverine to Consumers Power Company the Sanford Transformer Bank with lightning arresters, protective fuses, air-break switch, and “associated bus work and equipment, including the conductors between the transformer bank and that point of delivery at the Sanford Project,” and “[c]ertain rights in land and easements used or usable in connection with the operation, maintenance or replacement of the equipment described.”<sup>141</sup> Consumers Energy argues the RTU and DTT were not part of the equipment transferred in this paragraph of the Third Amendment, because no such equipment has ever been installed at the plant.<sup>142</sup> Consumers Energy then argues:

Even if the Third Amendment did apply to equipment other than the equipment conveyed in Section 1 of the Third Amendment, it neither requires installation of the DTT or RTU nor requires Consumers Energy to pay for such installation. Putting aside the fact that Section 5 of the Third Amendment only creates an obligation to convey real property rights, it only relates to ‘equipment and apparatus necessary for the proper receipt, protection and transformation of the energy received by [Consumers Energy].’ As the RTU and DTT have never been installed in connection with the Sanford Dam, and Consumers Energy has been receiving the Sanford Dam’s energy without issue for decades, it cannot be reasonably said that the RTU and DTT are ‘necessary’ for Consumers Energy to receive, protect, or transform the energy delivered by Boyce.<sup>143</sup>

Consumers Energy also notes that Boyce did not file rebuttal testimony addressing this section.

Section 24 is entitled “Subject to Accidents, Etc.” and states:

This agreement on the part of [Boyce] is subject to accidents and acts of God, affecting its dams, plants, machinery, transmission lines and property used in the generating, production and delivery of electric energy, and as to [Consumers Energy] is subject to accidents and acts of God affecting its transmission lines and substations used in the transmission of said electric energy from the property of [Boyce] to the station of

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<sup>141</sup> See Exhibit A-4, pages 67-68.

<sup>142</sup> See Consumers Energy Motion for Summary Disposition, pages 31-32.

<sup>143</sup> See Consumers Energy Motion for Summary Disposition, page 32.

[Consumers Energy], including its transforming station at Zilwaukee, and is subject to the acts of God, including fires and damage caused by lightning or electricity and violent storms affecting the remainder of its 60 cycle system. *[Consumers Energy] shall at all times construct and maintain its 60 cycle system in a first class modern manner and condition so as to render it capable and efficient and free, so far as reasonably possible, of liability to accident, damage or destruction from any thing or cause excepting only acts of God including fires and/or damage caused by lightning or electricity or violent storms.*<sup>144</sup>

Regarding this section, Consumers Energy argues that this a *force majeure* clause and has nothing to do with section 8, which as quoted above provides Consumers Energy siting for “for all equipment and apparatus necessary for the proper receipt, protection and transformation of the energy received.” Further, Consumers Energy argues:

This provision unquestionably does not expressly require the installation of either: (a) distribution system upgrades required due to the presence or modification of a generator, or (b) the Upgrades specifically. . . No issue exists that the RTU or DTT should be installed due to a force majeure even like an act of God, fire, storm, etc. Rather, Boyce’s own decision to make the Capacity Increase triggered the identification of the need to mitigate a potential island. As such, Section 24 of the Agreement does not apply to the current dispute.<sup>145</sup>

Consumers Energy argues that Boyce’s reliance on the second sentence of paragraph 24 violates “long-standing rules of contract interpretation”, and instead the meaning of the second sentence of paragraph 24 must be determined in the context of the section as a whole. Consumers Energy argues that because the section deals with liability for accidents, the language applies only in the event of an accident:

When read together, the first and second sentence both deal with the same fundamental issue – addressing damage done by accidents. In this regard, the second sentence specifically only relates to Consumers Energy maintaining the distribution system such that Boyce can be assured that routine accidents will not prevent it from putting its generation onto the distribution system. While an island can cause certain issues, it will not prevent Boyce from putting its generation onto the distribution

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<sup>144</sup> See Exhibit A-4, page 38.

<sup>145</sup> See Consumers Energy Motion for Summary Disposition, page 33.

system. As such, the second sentence of Section 24 should be read in the overall context – which focuses on accidents.<sup>146</sup>

Consumers Energy argues that rendering the 60-cycle system “capable and efficient and free, so far as reasonably possible, of liability to accident, damage or destruction” does not require Consumers Energy to pay for new equipment in connection with an increase in the generator’s capacity:

Rather, this language states that Consumers Energy should follow good utility practice when maintaining its existing distribution system. Consumers Energy has – without the Upgrades in place – capably and efficiently received the power from the Sanford Dam for decades without significant accident, damage, or destruction. Indeed, Boyce has submitted no evidence whatsoever of any actual harm caused due to an issue on the distribution system. As such, it cannot reasonably be said that such an RTU or DTT is needed to make Consumers Energy’s distribution system ‘capable and efficient and free of liability to accident, damage or destruction.’ This provision does not, even if it applies outside of the context of an accident, require the installation of the Upgrades.<sup>147</sup>

Finally, regarding this section specifically, Consumers Energy argues that Boyce’s reading of this section would impose a vague and unlimited obligation on Consumers Energy, at a potentially exorbitant cost to ratepayers, and would conflict with the limiting language in the section “so far as reasonably possible.”<sup>148</sup>

Consumers Energy also cites the correspondence in Exhibits A-17 and A-18 in arguing that the past practice of the parties to the agreement shows that Boyce is responsible for the distribution system upgrade.<sup>149</sup> Consumers Energy argues that Boyce’s discovery response indicating that Boyce does not perceive a conflict between

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<sup>146</sup> See Consumers Energy Motion for Summary Disposition, page 34.

<sup>147</sup> See Consumers Energy Motion for Summary Disposition, pages 34-35, also citing Ms. Martinez’s testimony at Tr 189-190.

<sup>148</sup> See Consumers Energy Motion for Summary Disposition, pages 35-36.

<sup>149</sup> See Consumers Energy Motion for Summary Disposition, pages 36-37.

the 1923 Agreement and the Interconnection Rules supports Consumers Energy's interpretation:

Here, the Interconnection Rules require the generator-owner to pay for upgrades required due to a material modification. If there is no conflict between the Interconnection Rules and the Agreement, as Boyce admits, then the Agreement should not be interpreted to come to a different result. Indeed, this conclusion is consistent with the fact that the Agreement does not expressly require Consumers Energy to pay for distribution system upgrades required due to the presence or modification of a generator.<sup>150</sup>

Consumers Energy also disputed Boyce's claim that it has allowed its distribution system to become outdated and not compliant with current standards. Consumers Energy contends that the relevant standards in this proceeding are the Interconnection Rules, the interconnection requirements, and IEEE 1547 and 1547.1, which Consumers Energy believes require Boyce to pay for the upgrades.

A review of the contract as a whole shows that that Boyce is responsible for generating and delivering energy to Consumers Energy, including maintaining capacity at or above the level originally installed, and including controlling the variation in load and voltage from the plant as stated in section 15, while Consumers Energy is responsible for receiving the energy delivered, including the proper system protections to address islanding. Consistent with the language of section 24 of the 1923 Agreement, Boyce is required to provide property rights to Consumers Energy, and access to Boyce's property, to enable Consumers Energy to meet this responsibility.<sup>151</sup> Contrary to Consumers Energy's argument, the language in section 8 requiring Boyce to provide property rights and access to Boyce's property was not introduced in the Third Supplement and Amendment to Agreement, but was included in the original

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<sup>150</sup> See Consumers Energy Motion for Summary Disposition, pages 37-38.

<sup>151</sup> See section 8, quoted above, also Exhibit A-4, page 34.

agreement and repeated in every subsequent modification of section 8.<sup>152</sup> Also contrary to Consumers Energy's argument, "proper" in that section does not refer to the property rights Boyce is to furnish, but should be read in conjunction with the utility's obligation to construct and maintain its distribution system in a first class, modern manner as stated in section 24. Likewise, this language in section 24 should not be read in isolation or as limited only to the allocation between the parties of liability for damages. That the contract allocates liability to Consumers Energy for failure to maintain its system in a first-class modern manner and condition is relevant to interpreting Consumers Energy's obligations under the agreement. Moreover, the purpose is not merely to reduce liability, but also so that the distribution system is "capable" and "efficient". Additionally, the reference to the sixty cycle system matches the reference in section 15 and is not unreasonably vague.

Although Consumers Energy correctly argues that the agreement as a whole should be considered in interpreting the agreement, it fails to persuasively identify any language in the agreement that is inconsistent with the conclusion that Consumers Energy should have already installed islanding protection for its distribution system as outlined in Mr. Matthews's letter.<sup>153</sup> The key disputed provisions, also quoted above, are repeated in the following three paragraphs:

\* [Boyce] further agrees at all times to keep in repair and efficient operating condition all the property, machinery and apparatus used in the generating and delivering of the energy to [Consumers Energy], and [Consumers Energy] agrees to keep in repair and maintain the apparatus necessary for the receiving of such energy so delivered, and its transmission line connecting the point of delivery with [Consumers Energy's] distribution system. [See section 6(g) above.]

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<sup>152</sup> See Exhibit A-4, pages 34, 54, 62-63, 70-71.

<sup>153</sup> See Exhibit BHP-5.

\* [Boyce] further agrees that it will furnish to [Consumers Energy], without expense, sufficient ground for site for outdoor substations and for all equipment and apparatus necessary for the proper receipt, protection and transformation of the energy received by [Consumers Energy]. [Boyce] further agrees to furnish [Consumers Energy] with a perpetual easement for constructing, maintaining and operating steel tower or wood pole transmission lines and telephone lines, over and across any property owned by [Boyce], but any and all such easements shall be subject to the use and occupation of the property by [Boyce] and shall in no wise interfere with the use and operation of said property by [Boyce]. [See section 8 above.]

\* This agreement on the part of [Boyce] is subject to accidents and acts of God, affecting its dams, plants, machinery, transmission lines and property used in the generating, production and delivery of electric energy, and as to [Consumers Energy] is subject to accidents and acts of God affecting its transmission lines and substations used in the transmission of said electric energy from the property of [Boyce] to the station of [Consumers Energy], including its transforming station at Zilwaukee, and is subject to the acts of God, including fires and damage caused by lightning or electricity and violent storms affecting the remainder of the its 60 cycle system. [Consumers Energy] shall at all time construct and maintain its 60 cycle system in a first class modern manner and condition so as to render it capable and efficient and free, so far as reasonably possible, of liability to accident, damage or destruction from any thing or cause excepting only acts of God including fires and/or damage caused by lighting or electricity or violent storms. [See section 24 above.]

As noted above, section 15 of the agreement also further defines the obligations of the parties:

On account of [Consumers Energy] being obligated under this contract to take a large quantity of electric energy during periods of [Consumers Energy's] light load, as well as at other times, [Boyce] agrees that its equipment shall be designed, installed, kept in repair and operated so as to properly take care of variations of load and voltage for [Consumers Energy's] entire sixty cycle system. To provide for these conditions, the specifications of all generating equipment to be installed by [Boyce] shall meet the approval of [Consumers Energy] prior to the purchase of the same.<sup>154</sup>

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<sup>154</sup> See Exhibit A-4, section 15, page 36.

Based on the language of these provisions, Exhibits A-17 and A-18 are not persuasive regarding the interpretation of the agreement. Wolverine's agreement to pay for certain protective devices also appears to relate to the significant rehabilitation it undertook, as reflected in its commitment to spend at least \$2.5 million on repairs.

Likewise, there is no real dispute that the anti-islanding protections specified in the IEEE 1547 standard are the appropriate standards that determine what protection is proper. Ms. Kallio's and Ms. Martinez's testimony make clear that IEEE 1457 contains the appropriate standard for islanding protection. Ms. Kallio clearly identified the RTU and DTT requirements as based on the Interconnection Rules, approved Interconnection Requirements, and Consumers Energy's Supplement, Exhibit A-1. Ms. Kallio made clear that these are industry standards designed to protect the utility's distribution system and the safety of employees.<sup>155</sup> She characterized the Supplement in Exhibit A-1 as stating Consumers Energy's "system protection philosophies."<sup>156</sup> In light of Ms. Kallio's testimony, Ms. Martinez's testimony that the Boyce contract language quoted above does not require Consumers Energy to meet these standards for system protection is not persuasive.

Consistent with the discussion above, the record also shows that the anti-islanding protections identified by Consumers Energy were required to comply with the IEE standard even before Boyce's maintenance work. Consumers Energy does not dispute this. Indeed, using the 33% threshold in the IEEE 1547 standard Ms. Kallio identified, Exhibit A-3 shows that the 33% threshold was significantly exceeded prior to the maintenance work. As explained above, the 1923 Agreement clearly contemplates

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<sup>155</sup> See Tr 227.

<sup>156</sup> See Tr 229; also see Tr 227, 230.

an increase in the capacity of the plants, although Boyce is obligated to obtain Consumers Energy's approval for new equipment. Nonetheless, without regard to the maintenance work Boyce performed, Consumers Energy had a pre-existing obligation to install anti-islanding protection.

## **VI.**

### **CONCLUSION**

For the reasons explained above, this PFD recommends that the Commission reach the following findings and conclusions:

1. Conclude that the maintenance activities at the Sanford plant were within the scope of the existing 1923 Agreement, and are not covered by the Interconnection Rules;

2. Conclude that an increase in the nameplate capacity of one of the generators at a hydroelectric plant is not necessarily a "material modification" under the Interconnection Rules;

3. Find that the maintenance activities at the Sanford plant, including the new turbine and rewind generator, did not increase the maximum electrical output of the plant, and were not a "material modification" as defined in the Interconnection Rules;

4. Find that the maintenance activities at the Sanford plant did not materially increase the pre-existing islanding risk on Consumers Energy's distribution system;

5. Conclude that if the maintenance activities at the Sanford plant are covered by the Interconnection Rules, these maintenance activities did not result in a material modification under Rule 22; and

6. Conclude that the 1923 Agreement assigns to Consumers Energy the responsibility to install and maintain islanding protection for its distribution system, subject to the obligations of Boyce to provide property rights and access to Boyce's property as provided in the agreement.

MICHIGAN ADMINISTRATIVE HEARING  
SYSTEM  
For the Michigan Public Service Commission

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Sharon L. Feldman  
Administrative Law Judge

December 22, 2016  
Lansing, Michigan